



VOL5-NO. 12

DECEMBER 1984

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FUTURE MEETINGS-FEB 2, MARCH 9

CLUB OFFICERS

CLUB OFFICERS

President—	Rob Stewart	312-537-3856
Vice-President—	Jim Glore	312-843-3215
Treasurer—	Jim Murphy	312-449-3139
Secretary—	Ken Rentfleish	
Librarian—	Joe Zeinz	312-526-0575
Newsletter Editor—	Terry Tufts	312-392-7735
Program Chairman—	Jim Glore	312-843-3215
Meetings Co-ordinator—	George McClarity	312-359-0283
Beginners SIG Co-ordinator—	Guy Lyle	312-359-1458
Volume Purchasing Co-ordinators—	Bill Noonan	312-262-6599
	Don Hanson	H- 312-386-3640 W- 312-269-7513

CORRECTIONS/CHANGES OF ADDRESS

Corrections/changes of address MUST be sent to the club secretary. Mailings are by bulk presorted third class mail. Any incorrect addresses will usually result in missed issues.

Membership is open to all. Dues are \$24.00 annually with a one time initiation fee of \$5.00 at the time of admission. Membership applications are available from the club Secretary at the meetings or by mail.

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HARVEST STAFF

EDITOR—Terry Tufts
Layout—Jay Toutenhoofd
Helen Tufts

CONTRIBUTING EDITORS

Industry News—Al Guthrie
Hardware—Chris Otis
Software—Rich McNeil
Beginners—Sheldra Horwitz
Book Reviews—Bruce Baier
SIG News—Ken Falter
Graphics—Pat Richter
Interesting Bits—Chris Tufts
Labels—Loren Avenson
ADVERTISING—Kelly Barker
DEALER CO-ORDINATORS—Andria D'Ericco
Bill Johnson

CLUB ADDRESSES

MEMBERSHIP, ETC.----- NIAUG
1271 Dundee Rd,
Buffalo Grove, Il,
60090
NEWSLETTER----- Terry Tufts
1015 S Ridge Ave,
Arlington Hts, Il,
60005
312-392-7735
LIBRARIAN----- Joe Zeinz
305 Honeysuckle,
Island Lake, Il,
60042
312-526-0575
BULLETIN BOARD----- 312-295-6926 24 hrs
SYSOP-Dave
& Joel Alpert

SUBMITTING ARTICLES

Handwritten articles are acceptable but articles on disk are preferred. Articles on a disk should use one of the following word processors: Easywriter, Applewriter, PIE or Magic Window. Use a 0 left margin and a line length of 47 characters for Easywriter and 41 for all others. Fill and right justify all text. Also supply a hard copy of the article for proof reading purposes. If your article includes a program listing please submit it on disk unless you have a printer that uses carbon film ribbon. All disks will be returned at the meeting unless requested to do otherwise.

MEMBERS AIDE

The members listed below have volunteered to answer questions from club members who need a "HOTLINE" type answer that can be handled over the telephone. Please try to be brief as a courtesy to them. PLEASE NO CALLS at dinner time or after 10 pm.

ADDITIONAL VOLUNTEERS REQUIRED TO FILL OUT THIS MEMBER SERVICE. IF YOU FEEL QUALIFIED IN ONE OF THE SUBJECTS BELOW PLEASE CALL THE EDITOR TO HAVE YOUR NAME ADDED TO THE LIST.

APPLE II, II+, IIe, IIC

ACCOUNTING

The Accountant	Walt Hopkins	815-459-1769
Home Accountant	Tom Grisko	312-297-0927
Time is Money	Bob Steinberg	312-677-8787
BPI	*Debbie Hauser	312-272-8236
	*daytime	

BEGINNERS AIDE

*Rich Lundeen	312-420-8468
*Applesoft, DOS, Assembler	
VisiCalc	

BULLETIN BOARDS

Joel Alpert	312-295-6078
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GENERAL

Paul Stadfeld	312-359-2378
---------------	--------------

TECH NOTES

Joe Zeinz	312-526-0575
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COMMUNICATION PACKAGES

ASCII Express	Joel Alpert	312-295-6078
	Tony Antonucci	312-282-8436
Z-pro	Tony Antonucci	312-282-8436

COMPILERS

Tasc	Rich McNeil	312-986-0548
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DATA BASES

dBase II	Ron Curtis	312-827-1157
DB Master	Max Rubin	312-674-7209
	Natalie Alberts	312-381-1530
Data Factory	Ken Falter	312-259-6474
General Manager	Rich McNeil	312-986-0548
List Handler	Carl Johnson	312-256-6094
Visifile	Wayne Mitchell	312-537-3834
PFS	Byrd Dehinten	312-998-8742
	Rich McNeil	312-986-0548

EDUCATION SOFTWARE

Jim Bradshaw	312-881-7000
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FLOPPY DISK DRIVES

8" disk Drives	Tony Antonucci	312-282-8436
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GAMES

?	?
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GENERAL BUSINESS

Stats Plus	Ken Falter	312-259-6474
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GRAPHICS

Paul Stadfeld	312-359-2378
---------------	--------------

HARD DISKS

Corvus	*Dave Drucker	312-541-2124
	*daytimes	
	Walt Hopkins	815-459-1769

HARDWARE

Jim Murphy	312-449-3139
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INVESTMENT

John Hoffmann	312-998-0164
Jim Bradshaw	312-881-7000

LANGUAGES

(A)pplesoft, (I)nteger, (P)ascal,		
(F)orth, (L)isp, (M)achine code,		
A,I	Ted Rosemamm	312-882-7938
A,I	Mary Rosemamm	312-882-7938
P	Herb Schulz	312-968-6927
P	*Dave Drucker	312-541-2124
	*daytime	
A,I	Rich Lundeen	312-420-8468
M,A,I	Paul Stadfeld	312-359-2378
M,A,I	Guy Lyle	312-359-1458
M,A,I	Joe Zeinz	312-526-0575
M,A,I	Earl Allen	312-837-9259
A,I,P	Ken Nestle	312-620-7745
A,I,	Jim Murphy	312-449-3139
A,P,C,	Tony Antonucci	312-282-8436
8080, Z80 Assembler	Tony Antonucci	312-282-8436
F	Bob Sullivan	312-383-7785
C	?	?
A,C,Cobol	Loren Avenson	312-259-9433
Fortran	John Kelley	414-354-7656
Logo	?	?
Pilot	?	?

MODEMS

Apple Cat II	?	?
DC Hayes Micromodem	Joel Alpert	312-295-6078
	Tony Antonucci	312-282-8436
	Rich Lundeen	312-420-8468
DC Hayes Smartmodem	Larry Fox	312-295-6774

OPERATING SYSTEMS

Apple DOS	Jim Glore	312-843-3215
	Tony Antonucci	312-282-8436
CPM	Tony Antonucci	312-282-8436
UCSD P-System	*Dave Drucker	312-541-2124
	*daytime number	

SPREADSHEETS

Multiplan	William Neurauter	312-980-4785
Microfinesse	*Dave Drucker	312-541-2124
	*daytime number	
LogiCalc	Peter Clarke	312-545-0974
The Spreadsheet/ Magi-calc	Bob Steinberg	312-677-8787
	Joe Sobel	312-398-1836
VisiCalc	Joe Sobel	312-398-1836
VisiCalc	Jay Toutenhoofd	312-359-1460

PRINTERS

General	Terry Tufts	312-577-7381
Apple Dot Matrix	David Macaulay	312-991-4977
Diablo	Peter Clarke	312-545-0974
IDS	?	?
Epson	Tony Antonucci	312-282-8436
NEC Spinwriter	Beldon Rich	312-272-8236
NEC 8023	Bob Steinberg	312-677-8787
	Rich Lundeen	312-420-8468
ProWriter	Tom Grisko	312-297-0927
Okidata	Peter Clarke	312-545-0974
	*Dave Drucker	312-541-2124
	*daytime number	

WORDPROCESSORS

Easy Writer	Terry Tufts	312-577-7381
Apple Writer II	Ken Falter	312-259-6474
	Rich McNeil	312-986-0548
Format II	Bob Steinberg	312-677-8787
Magic Window	Ed Evenson	312-255-3403
	Rich Lundeen	312-420-8468
ScreenWriter II	Rich McNeil	312-986-0548
	Tom Grisko	312-27-0927
Supertext II	Larry Fox	312-295-6774
Apple Pie/PIE Writer	Walt Hopkins	815-459-1769
Word Handler II	Carl Johnson	312-256-6094
WordStar	Peter Clarke	312-545-0974
	Tony Antonucci	312-282-8436

IBM PC, XT COMPUTERS

BEGINNERS AIDE

Rich McNeil	312-986-0548
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GENERAL

COMMUNICATION PACKAGES

Smart Term	?	?
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DATA BASES

EDUCATION SOFTWARE

Jim Bradshaw	312-881-7000
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FLOPPY DISK DRIVES

GAMES

HARDWARE

LANGUAGES

(B)asic

MODEMS

SPREADSHEETS

PRINTERS

General	Terry Tufts
Epson	Tony Antonucci
NEC 8023	Bob Steinberg
	Rich Lundeen
ProWriter	Tom Grisko
Okidata	Peter Clarke
	*Dave Drucker
	*daytime number

WORDPROCESSORS

COMMODORE COMPUTERS

BEGINNERS AIDE

Don Strauss	312-593-0853
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GENERAL

COMMUNICATION PACKAGES

DATA BASES

EDUCATION SOFTWARE

Jim Bradshaw	312-881-7000
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FLOPPY DISK DRIVES

GAMES

?	?
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HARDWARE

LANGUAGES

(A)ASIC

MODEMS

SPREADSHEETS

PRINTERS

General	Terry Tufts	312-577-7381
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	Rich Lundeen	312-420-8468
ProWriter	Tom Grisko	312-297-0927
Okidata	Peter Clarke	312-545-0974
	*Dave Drucker	312-541-2124
	*daytime number	

WORDPROCESSORS

EDITORIAL

by Terry Tufts

This is the place where I have the chance to comment on the club and what we do and try to do. It is my vehicle to complain, prod, applaud and question. So here goes.

WE GET LETTERS.....

In our Letter to the Editor section you will find a thoughtful letter. First of all, thanks to Ken for taking the time to comment, it is greatly needed. We all like compliments but I would like to thank him also for his comments on the programs presented at the meetings. Jim Glore spends quite a bit of time thinking of topics and lining up speakers. In many cases, if he is like me, I suspect he satisfies his own interests unless he get some comments and suggestions. If Ken is right in his assessment, that the majority of members that attend meetings may be interested in presentations from vendors applications, it may be quite easy to get vendors reps for this task.

If you have opinions, comments or suggestions on this, speak up. How many of you have wondered about a product or a subject? If we know of your interests we may be able to specifically respond to your needs. For instance: we can get hardware or software for evaluation. In some cases the vendors will give us software depending on its cost. Hardware usually will be loaned to us for a month or two or sold to us at dealer cost by others depending on its cost. If need be, the club is prepared to purchase some hardware for evaluation purposes if there is reasonable chance of reselling it later. So you can see we have thought about some of the things that might be of use to you. What we need is your thoughts, ideas, comments and perhaps a little follow up on specific products. Consider making lists of products you are interested in, complete with manufacturers name and address. We will try to acquire them. If you want to help with acquisition we can use a little of your time for that activity. Kelly Barker has been contacting manufacturers and publishers for advertising, products and presenters. She can use your thoughts and suggestions. Jim Glore is not very standoffish so feel free to grab his arm and

bend his ear with a few thoughts and ideas and your feedback on the type of presentations we have been giving you.

ALTERNATE MEETINGS

We have discussed the possibility of other general meetings being held at other locations convenient to those of you who don't want to travel to Harper. We think that it wouldn't be hard for some of you to have meetings at other locations. We will assist you if you want to do some organizing and planning.

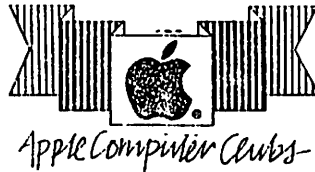
In the past people have felt that it was necessary to start a brand new group and duplicate all the activities of the club, including a newsletter. This seems to me to be a little masochistic. Why not be a little more efficient and put our heads together and make it a co-operative venture. The larger the membership we have, the more benefits we can have. I don't know that any of the club officers has such a big ego that they are not willing to share their functions or even turn them over to you if you desire. If there is anyone feeling unfulfilled and wants to edit a newsletter, that is one of the best in the country, please step forward. I will be happy to step aside and give you the job. You don't have to start a new club to get an Editor's job.

Other Thoughts....

Our volume buying group is now in business and can use your thoughts and ideas of what products you wish to buy. The savings can be significant and almost any product will be available if you want it. You must make the first move, they are there to co-ordinate, not originate. Bill and Don's number are listed on the mast head so give them a call.

SEASON'S BEST WISHES.....

LETTER TO EDITOR



Dear Editor:

Let me take this opportunity to introduce myself. My name is John Marvelle and I am the Associate Director of the Apple Computer Clubs and editor of the Clubs' newsletter, *Computer Student* (Copy enclosed). The Apple Computer Clubs, funded by Apple Computer, Inc., has over 15,000 member clubs around the world. Our goal is to improve educational computing by encouraging the positive use of microcomputers by youth. Most member clubs in our network were organized in elementary and secondary schools by a school principal and/or the principal's designee. Recently, we have opened our membership to allow other youth organizations, such as YMCAs, Boys Clubs, Girl Scouts, 4-H Clubs, and neighborhood computer clubs, to join us.

As editor of our newsletter, I am interested in helping member clubs learn more about their Apple II, IIe, IIc or Macintoshes and find other resource groups in their general area that may assist them. I am interested in helping our clubs learn more about your group and its services. To do this I have a three-fold request.

First, I would be interested in swapping newsletters so that we broaden our awareness of each other.

Second, I would be interested in having you spread the word that we are looking for writers. As I mentioned, our newsletter goes to over 15,000 clubs around the world, so here is a great opportunity for you and your members to share their insights and experience with thousands of Apple computer users. We have an immediate need for articles on user groups (what are they, how to find them, services, etc), Logo (both for elementary and secondary-age students), and Software (Finding it, Getting your own published, etc). We are always looking for well-written tutorial articles on programming. Currently, I am looking for 3 part-series on Apple Pascal and Assembler. If you or any of your members are interested, please call me immediately at (617) 459-7181.

Lastly, I am interested in mentioning your user group as a resource in the "Official Apple Computer Clubs' Book" I am currently writing for Prentice-Hall. The last section of this book will include a list of resources (user groups, software houses, resource books, journals, etc.) that we want Apple Computer Clubs and club members to know about. If you would like to be mentioned in this section, please complete the enclosed form and return it to me no later than December 1, 1984. Because of space limitations, I cannot guarantee that I will be able to include your group among these resources, however, I will give you fair consideration.

Thank you for your time. I look forward to hearing from you.

Sincerely,


John D. Marvelle
Associate Director/Editor

The Apple Computer Clubs, P.O. Box 948, Lowell, Massachusetts 01853 Telephone: 617/452-9979

Editors note-

Anyone interested in this organization for kids.

Dear Terry,

I have been meaning to write this letter for quite a while, but the necessary time has just presented itself so here are a few comments about NIAUG.

First a thank you to you the other officers for the time spent on this endeavor. If I speak for many members, I can say that the meetings are very enjoyable and worth the effort of putting them together. Although I have only been a member for the last 15 months, the meetings during this time have been of interest to me as an Apple user. I especially enjoy the wide variety of topics that are presented. I hope this will continue in the future.

I also have good comments about the Harvest. Over all it is Newsletter of which our organization can be proud. I know that the hours needed to put it together must seem endless, but let me assure you that we do appreciate the effort. The new series by Al Guthrie titled Industry News is particularly noteworthy for such a small publication. Of course the reprints from other user groups are often very informative and worth the research necessary to publish them. This is all the more true due to their inaccessibility to the average member.

A further comment concerning trends in membership as the base of Apple users changes. It has been my experience that as the personal computer becomes a mass merchandised item, the typical user changes from the "hacker" to the software user. This change may also be reflected in the club membership and therefore should be considered when planning agendas and Harvest articles.

More specifically, just a few years (maybe even just months) ago, most purchasers of Apples were the hardy type interested in BASIC, peeks, pokes and the nuances of memory locations. But this type of buyer is no longer typical. Today we see the person who is applications orientated. They no longer care "what's under the hood" but rather output is what is of primary importance. We see this in the rapid increase in the sales of the IIC and Macs. We then as an organization need to address the new user when planning for the future of NIAUG.

This change was evident in the very positive response to the speakers at the last meeting. Members sitting near me were unanimous in their positive reaction to the software vendors who demonstrated at that meeting.

Lastly, I would like to offer the Library a new disk. Although this is not my work, I think it would be a valuable addition to the library. It is specifically aimed at those of us who use the Apple Imagewriter printer. This printer as you probably know, has the ability to load a special character set and retain it for use in various wordprocessing applications. The instruction book explains how to write your own character set, but this is a complex process to the non technical user. After much inquiry both at Apple and the local dealers, I have found a disk with 22 new fonts to load into the Imagewriter. These add a whole new dimension to the printing process. I can recommend them to all Imagewriter owners. The disk is self explanatory and easy to use as long as the fonts are loaded in BEfore the wordprocessor is booted. The disk which was given to me free by Farnsworth Computer Center contains no credit or copyright notice so I assume that it is public domain. I have enclosed a sample of its font sets for your examination.

Thanks, again



Ken Wiseman, NIAUG member
720 Morgan Street
Egin, IL 60120

Editors note-

This disk will be in the library.

James H. Tolson
1417-G W. Touhy Ave
Chicago, Illinois 60626

8 November '84

Dear Mr. Tufts:

I'm a paid-up but somewhat dormant member of NIAUG, having just dug my II+ out of the closet after three years. I noticed your name in "Members Aide" for general printer questions, and thought perhaps you might be of some help. (I would call, but I work nights).

Do you know if anyone has found an interface card to allow use of a Centronics 737? I've been using a CCS board, which is smart enough to allow listings and unformatted material to be printed (auto returns, form feeds, etc.), but really gets(got) in the way of word processing: a "tug-of-war" between software & firmware for control of the format.

None of my friends could devise a "play dead" patch for the board. One tried his Epson interface, but it was incompatible.

I'm beginning to think that I should relegate the 737 to draft work and ignore its trick features like stretch, squeeze, underline, etc. Should that be my best option, then another question rears its head: what horrors await in using one of the daisywheel typewriter/printers like the SCM Memory Messenger. These offer nice copy, but I'm fearful of the new can of worms I'd be opening.

(This letter, by the way, is done on a Canon Typestar- it won't do envelopes though, and while portable, isn't interface-able)

Any light you can shed would be most appreciated.



Editors note-

The Centronics 737 is one of the first printers available for micros. Is there someone out there who has solved some of these problems who can help Jim with his problem?

ASCII

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
ASCII

BLIPPO BLACK

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
BLIPPO BLACK

BYTE

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
BYTE

COLOSSAL

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
COLOSSAL

COUNT

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
COUNT

ЧМРММММ

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
CYRILLIC

ESPERANTO

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
ESPERANTO

FLOW

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
FLOW

GOTICE

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
GOTHIC

GRAPHIC

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
GRAPHIC

GREEK

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
GREEK

ヒチチヒチチチ

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KATAKANA

MIRROR

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
MIRROR

OUTLINE

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
OUTLINE

PINOCCHIO

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
PINOCCHIO

PUDGY

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
PUDGY

ROMAN

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
ROMAN

SHADOW

SHADOW

SHADOW

SLANT

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
SLANT

SCOP

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
STOP

UPSIDE DOWN

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
UPSIDE DOWN

PREZ SEZ

Time for most of the members to RENEW. You will be getting a special form in the mail, so please wait for this form. Renewal will cost \$24.00.

We have set a target size for the Harvest at 64 pages per month. Incredible, isn't it! We need your articles, letters, suggestions, gripes. Please send them in. We are slowly getting more and more advertising. Don't worry, we will not allow the Harvest to turn into an ad magazine.

How do you like the Harvest these last 4 months. Should we continue, or would you rather we went back to the old size, content and format? SAY SOMETHING! Terry would really like to know!

AGAIN..... We are interested in setting up remote general meetings in areas closer to your home. If you live in Chicago, the northern suburbs, the southern suburbs, or the west/southwest suburbs, PLEASE let me know you are interested in meetings in those areas! NIAUG will pay for meeting locations in other areas, just ask. The current officers live around the NW suburban area, or there would be a push from one of us to set up in another location as well.

A little information needs to be passed on to the membership regarding the recent promotion the members received from Cybertronics. NIAUG was contacted by Bill Sefton. He wanted to purchase our mailing list for his use. We informed him that the NIAUG mailing list was not available for sale. As an alternative, the officers had discussed the providing of a mailing service for advertisers at a rate of \$.15 per letter, provided the mailing was stuffed, sealed, and contained the correct postage. A portion of the payment would go to NIAUG, and the balance to the person(s) which actually labeled and mailed the material.

This was not the first time such a mailing has been done, but it has been over a year since the last time one was performed. We are learning. Next time

we will better prepared to be critical of the content of the mailing, before it has been printed, stuffed, sealed and stamped. This is a benefit to you, because of your membership in NIAUG. At renewal time, we will be asking if you do not wish to receive this type of mailing, and any further mailings will be using this restricted list of members.

Every little bit of revenue helps!

It has been suggested that NIAUG contact WOZ, and invite him out to a meeting. ARE YOU INTERESTED? What if we have to pay his plane fare? We could rent a big hall, \$5.00 at the door, NIAUG members \$3.00 or maybe free? What do you think???

By now you may have noticed that the Members Aide now has Commodore and IBM listed. There are several reasons for this change. We have a number of members that own those computers, as well as Apples. We are getting inquiries from non-members for these machines. If we can actively support more than Apple computers, then NIAUG will be able to qualify for true TAX-EXEMPT status, and your dues would become TAX-DEDUCTABLE!!! This change in the structure of the Users Group does not mean a major change in general meeting content. These other machine owners will most likely establish separate meeting schedules and locations.

Whether NIAUG remains the parent organization, or becomes part of an umbrella group (similar to the Boston Computer Society) we have no idea. But there is no reason that this Users Group should not have 5000 members instead of 500 (and that is without even thinking about the number of owners of other computers!).

How do you like the new benefits..... Expanded Harvest. Group Buy Coordinator. Expanded Members Aide. Beginners Sig. Other Sigs. Door prizes at meetings. Discounts with local computer stores. DROP US A NOTE. WE WANT TO KNOW!

WHAT ELSE DO YOU WANT, that we haven't done yet? WRITE IT DOWN. SEND IT IN

We need your comments, and if you have time, your help.

NIAUG doesn't get better if you wait for someone else to make the changes! Won't you help? 4 hours a month will make a great impact!

Rob Stewart, CPD
President, NIAUG

1984 Program Contest Winners

by Joe Zeinz, CDP
NIAUG Librarian

Another program contest has come and gone. I would like to thank all those that made it possible: the dealers for the prize contributions, members that have decided to participate by submitting their programs. And last of all to the members of the Library Committee: Larry Erdman, Jim Ulrich, Don L'Amoureux, Ralph Meyer, and Keith Harris who have done the soliciting for the prize contributions and then judged the entries.

This year there was over \$1650 in prizes that was distributed over the 27 program entries. This makes the average prize worth around \$60. (Don't you wish you had entered.)

There were a total of six judges for the contest, so that each program was reviewed by at least four to five judges. Only a couple of programs were reviewed by three or less judges, this is because of hardware restrictions imposed by those entries. All programs were judged based on the following items:

- Documentation
- Coding Techniques
- Program Usefulness
- Originality
- Judge's Impressions

Most of the emphasis was placed on the Judges' Impressions, Documentation and Originality. Only 10%-15% of the programs scoring was placed on Coding Technique and Usefulness. Each of the judges, judged the programs separately. The

scores were then collected and averages were computed to determine program rankings. All submissions were then divided into the following categories:

- Educational
- Utilities
- Home/Business
- Game/Graphics

This year in my opinion, there was no particular program that blew your socks off, as in several of the past program contests, but there were a lot of good programs. Because of this, along with the \$50 prize for top program in each category, there was also a \$25 prize for the second place programs.

I hope that after viewing some of the current program entries and the prizes that were awarded, that more people will get some ambition to start working on their masterpieces for next years contest. For the past two years now, everyone that has entered the contests have walked away with some kind of prize. Tell me how can you beat those odds? If you have any comments or need more information about the contest or future contests, please contact the Club Librarian. And once again thanks to everyone that has made this contest possible.

P.S... Look for the 1984 Program Contest Entries in the NIAUG Disk Library Volumes 86 thru 90.



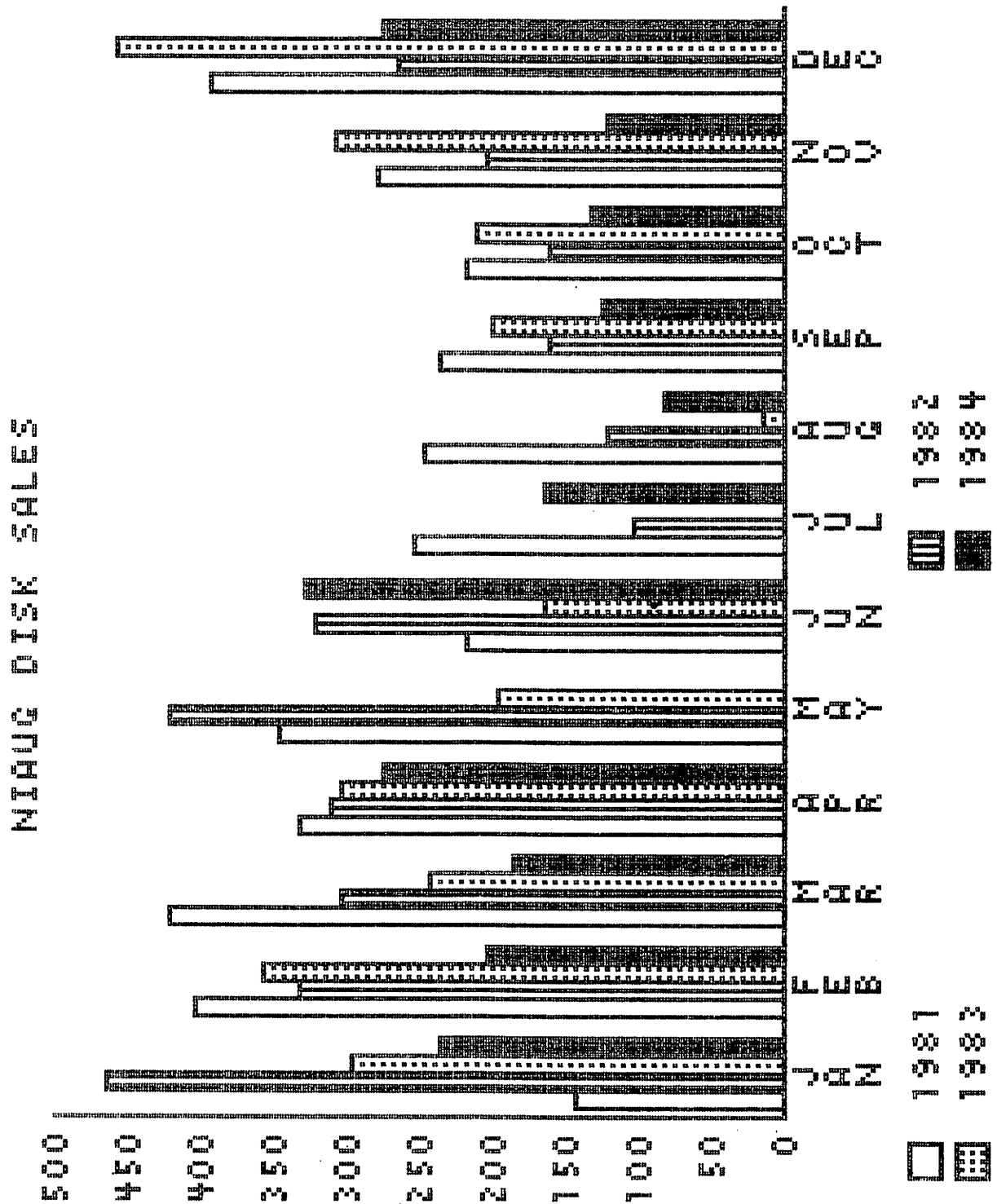
984 Program Contest Winners

Program Name	Author	Prize/Contributor
FORMULA ANALYZER	Len Michaels	ALF Music Card / Video Etc. \$50 1st Educational/Niaug
CHEMICAL BALANCER	Joe Zeinz	Networth/ Software Center \$50 1st Educational/Niaug
BL'S TOUGH TEST	Brian Lenzion	\$100 Gift Certificate / Computerland of Niles \$25 2nd Educational / Computer Futures Exchange
META-BOUNCE	Drew L'Amoureux	Flight Simulator / Software Center \$50 1st Game-Graphics / Niaug
CHECK BOOK	Micheal Beyers	Turbo Pascal / Borland International \$50 1st Home-Business / Niaug
GOOD OLD DAYS	Donald L'Amoureux	Turbo Pascal / Borland International
TEXT SCREEN EDITOR	Noah Goldman	Turbo Pascal / Borland International \$50 1st Utility / Niaug
STAR TREK ADVENTURE	Kevin Morgan	Honorable Mention! Pixit / Baudville
BOWLING	E. Roombos	E-Z Draw / Midwest Micro Computers \$25 2nd Home-Business Computer Futures Exchange
ENVIRONMENT EFFECTS	Joe Zeinz	Turbo Pascal / Borland International
LOTTO	Rob Steward	Turbo Pascal / Borland International
DISK UTILITY	Jim Glore	Turbo Pascal / Borland International \$25 2nd Utility / Computer Futures Exchange
GLORE DOWNS	Jim Glore	Wayout / Midwest Micro Computers \$25 2nd Game-Graphics Computer Futures Exchange

1984 Program Contest Winners

Program Name	Author	Prize/Contributor
ESTIMATED TAXES	John Bulter	Flip"n"File / Farnsworth Computers
BOWLING TEAM SCORES	Micheal Fink	Turbo Pascal / Borland International
MR AUTHUR	James Wiedman	Spelling / Midwest Micro Computers
COUNTING	Mollie Scott	Book of 32 BASIC Programs
LOTTO LUCK	Larry Carr	PC Diskettes / Precision Copy
UNC	Jim Glore	Box of Diskettes / NIAUG
HI-RES EFFECTS	Noah Goldman	Box of Diskettes / Computerland of Arlington
TELEPHONE NUMBER WORDS	Brian Lenzion	Box of Diskettes / Computerland of Arlington
LINE WRITER	Arthur Mazzaro	Box of Diskettes / Computerland of Arlington
LO-RES SCREEN EDITOR	Noah Goldman	Box of Diskettes / Computerland of Arlington
MULTI-TABLE	Ralph Meyer	Box of Diskettes / Computerland of Arlington
BANK RECONCILIATION	Richard Roman	Hard Hat Mack / Computer Junction
MATH DRILL	Debbie Cichanski	Snake Byte / Midwest Micro Computers
EPSON RX80 SET-UP	Richard Edison	Disk 2 Pack / Video Etc. Coffee Mug / Computer Futures Exchange

LIBRARY NEWS



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** DISK VOLUME # 80 **

A DISK SUMMARY

BY J PFEIFFER

TYPE A LEN- 16 (UTIL/HELLO)

DISPLAYS PROGRAM DESCRIPTIONS AND
RUNS THE PROGRAMS BY NUMBER
SELECTION

ANDROMEDA

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

APPLESOFT

BY J PFEIFFER

TYPE I LEN- 7 (HOME)

NIAUS HELLO PROGRAM

AQUARIUS

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

AQUILA

BY RON DAWES

TYPE T LEN- 3 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

ARIES

BY RON DAWES

TYPE T LEN- 2 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

ASTRO CONVERSION

BY RON DAWES

TYPE A LEN- 34 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

AURIGA

BY RON DAWES

TYPE T LEN- 3 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

BOOTES

BY RON DAWES

TYPE T LEN- 3 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

CANCER

BY RON DAWES

TYPE T LEN- 2 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

CANIS MAJOR

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

CAPRICORN

BY RON DAWES

TYPE T LEN- 3 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

CASSIOPEIA

BY RON DAWES

TYPE T LEN- 3 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

CEPHEUS

BY RON DAWES

TYPE T LEN- 3 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

CETUS

BY RON DAWES

TYPE T LEN- 3 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

CONST INSTR

BY RON DAWES

TYPE A LEN- 12 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

CONST SHAPES

BY RON DAWES

TYPE B LEN- 6 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

** DISK VOLUME # 80 **

CONSTELLATION

BY RON DAWES

TYPE A LEN- 23 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

CORONA BOREALIS

BY RON DAWES

TYPE T LEN- 2 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

CRYSYN

BY BOB RIDDLE

TYPE A LEN- 37 (EDUC/HI-RES)

USED WITH E/CRYSYMNITRO

CYGNUS

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

DRACO

BY RON DAWES

TYPE T LEN- 3 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

E/ASTRONOMY

BY RON DAWES

TYPE A LEN- 3 (EDUC/HI-RES)

PLOTS THE STARS OF THE BRIGHTEST

CONTELLATIONS IN THE NORTHERN

HEMISPHERE INCLUDES ALL OF THE

ZODIAC

E/BOOZE N YOU

BY JIM COOK

TYPE A LEN- 15 (EDUC/MEDICAL)

TELLS HOW A DRINK COULD AFFECT YOU

E/CALORIE REQUIREMENTS

TYPE A LEN- 14 (EDUC/MEDICAL)

FIGURES THE NUMBER OF CALORIES YOU

NEED

E/CRYSYMNITRO

BY BOB RIDDLE

TYPE A LEN- 33 (EDUC/HI-RES)

VISUAL AND TEXT TUTORIAL ON 6 MAJOR

CRYSTAL SYSTEMS. PRODUCED WITH THE

BILL BUDGE'S 3-D GRAPHICS SYSTEM

AND GAME TOOL.

E/DUNGEON OF ARBESLA

TYPE A LEN- 32 (EDUC/STRATEGY)

ADVENTURE GAME TO BRISH UP ON YOUR

ALGEBRA. BATTLE THE MONSTER WITH

YOUR BRAIN INSTEAD OF A SWORD.

E/IDEAL BODY WEIGHT

TYPE A LEN- 33 (EDUC/MEDICAL)

FIGURES BODY WEIGHT BY SEX HIEGHT

AND BONE STRUCTURE

E/ORG.CHEM I

BY ROGER FOWEE

TYPE A LEN- 25 (EDUC/HI-RES)

TEACHES BASICS OF ORGANIC CHEMISTRY

AND ITS COMPOUNDS

E/ORG.CHEM II

BY ROGER FOWEE

TYPE A LEN- 25 (EDUC/HI-RES)

TEACHES BASICS OF ORGANIC CHEMISTRY

AND ITS COMPOUNDS

E/VOCABULARY BUILDER

BY ROBERT DERNER

TYPE I LEN- 22 (EDUC)

STUDY AND TEST YOUR WORD SKILLS

GENINI

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

** DISK VOLUME # 80 **

HELLO

BY J ZEINZ

TYPE A LEN- 7 (UTIL/HELLO)

HELLO PROGRAM DISPLAYS LOGO AND
RUNS 'A DISK SUMMARY'

HERCULES

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

LEO

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

LIBRA

BY RON DAWES

TYPE T LEN- 2 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

LYRA

BY RON DAWES

TYPE T LEN- 3 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

MODULE.CRYSYNOR

BY BOB RIDDLE

TYPE B LEN- 31 (EDUC/HI-RES)

USED WITH E/CRYSYMNITRO

NIAUS.LOGO

BY J ZEINZ

TYPE B LEN- 7 (UTIL/HELLO)

CLUB LOGO

OPHIUCHUS

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

ORION

BY RON DAWES

TYPE T LEN- 5 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

PEGASUS

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

PERSEUS

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

PISCES

BY RON DAWES

TYPE T LEN- 3 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

SAGITTARIUS

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

SCORPIO

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

TAURUS

BY RON DAWES

TYPE T LEN- 3 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

UNPACK

TYPE B LEN- 2 (UTIL/HELLO)

DISPLAYS LOGO

URSA MAJOR

BY RON DAWES

TYPE T LEN- 4 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

URSA MINOR

BY RON DAWES

TYPE T LEN- 2 (EDUC/HI-RES)

USED WITH E/ASTRONOMY

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** DISK VOLUME # 80 **

VIR80

BY RON DANES
TYPE T LEN- 3 (EDUC/HI-RES)
USED WITH E/ASTRONOMY
Z PROG.LIST
TYPE T LEN- (MISC)
TEXT FILE CONTAINS PROGRAM
DESCRIPTIONS USED BY 'A DISK
SUMMARY'

** DISK VOLUME # 81 **

A DISK SUMMARY

BY JIM PFEIFFER
TYPE A LEN- 16 (UTIL/HELLO)
DISPLAYS PROGRAM DESCRIPTIONS AND
RUNS THE PROGRAMS BY NUMBER
SELECTION

APPLESOFT

BY JIM PFEIFFER
TYPE I LEN- 7 (HOME)
NIAUS HELLO PROGRAM

BOWLING 1 DRIVE

BY ELIZABETH ROOMBOS
TYPE A LEN- 34 (HOME/OPER)
PROGRAM KEEPS RECORDS FOR A BOWLING
LEAGUE, CALCULATES AVERAGES AND
HANDICAPS, TRACKS HIGH SCRATCH AND
HANDICAP GAMES AND SERIES (1 DRIVE)

BOWLING 2 DRIVES

BY ELIZABETH ROOMBOS
TYPE A LEN- 35 (HOME/OPER)
PROGRAM KEEPS RECORDS FOR A BOWLING
LEAGUE, CALCULATES AVERAGES AND
HANDICAPS, TRACKS HIGH SCRATCH AND
HANDICAP GAMES AND SERIES (2
DRIVES)

BOWLING HELLO

BY ELIZABETH ROOMBOS
TYPE A LEN- 6 (HOME/OPER)
MENU FOR THE BOWLING PROGRAMS

BOWLING INSTRUCTIONS

BY ELIZABETH ROOMBOS
TYPE A LEN- 20 (HOME/OPER)
INSTRUCTIONS FOR THE BOWLING
PROGRAMS

DISK

BY SEAN MCCREA (5TH GRADE)
TYPE B LEN- 6 (EDUC/LORES)
USED WITH DISK PICTURE

DISK !!!

BY SEAN MCCREA (5TH GRADE)
TYPE B LEN- 6 (EDUC/LORES)
USED WITH DISK PICTURE

DISK PICTURE

BY SEAN MCCREA (5TH GRADE)
TYPE A LEN- 2 (EDUC/LORES)
DRAWS A PICTURE OF A DISKETTE

ENVIRONMENT EFFECT

BY JOE ZEINZ (NIAUS MEMBER)
TYPE A LEN- 28 (EDUC/EDUCA)
DEMONSTRATES THE EFFECTS OF THE
ENVIRONMENT ON A GIVEN SPECIES WITH
DIFFERENT GENETIC CHARACTERISTICS

EPSON RX-80 PRINTER SET-UP

BY RICHARD EDISON (NIAUS MEMBER)
TYPE A LEN- 9 (UTIL/PGM.UTIL)
SETS CONDENSED -ENLARGED
-EMPHASIZED AND OTHER COMMON SETUP
CODES TO THE PRINTER BY USING A
MENU

** DISK VOLUME # 81 **

GOLIATH1

BY SEAN MCCREA (5TH GRADE)
TYPE B LEN- 6 (EDUC/LORES)
USED BY MATH EXAMPLE

GOLIATH2

BY SEAN MCCREA (5TH GRADE)
TYPE B LEN- 6 (EDUC/LORES)
USED BY MATH EXAMPLE

HELLO

BY JOE ZEINZ
TYPE A LEN- 8 (UTIL/HELLO)
DISPLAYS NIAUS LOGO AND RUNS 'A
DISK SUMMARY'

K POWER

BY PAUL MURPHY (5TH GRADE)
TYPE A LEN- 6 (EDUC/EDUCA)
DEVELOPED FOR KINDERGARDEN READERS
TO FAMILIARIZE THEM WITH THE
SPACE-BAR AND READING SPEED

MATH EXAMPLE

BY SEAN MCCREA (5TH GRADE)
TYPE A LEN- 3 (EDUC/EDUCA)
SIMPLE MATH PROBLEM SHOWN IN
LOW-RES WITH A POSITIVE AND
NEGATIVE RESPONSE

MAX

BY P MCCREA
TYPE A LEN- 5 (EDUC/EDUCA)
SIMILAR TO K POWER BUT WITH GRAPHIC
PICTURES

MAX INTRO

TYPE A LEN- 4 (EDUC/EDUCA)
MENU PROGRAM USED FOR 'K POWER'
'MAX' 'ONE' AND 'MTW'

MAX1

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX2

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX3

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX4

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX5

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX6

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX7

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX8

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX9

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

** DISK VOLUME # 81 **

MAX10

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX11

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX12

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX50

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

MAX51

BY P MCCREA
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MAX

NIAUS.LOGO

BY JOE ZEINZ
TYPE B LEN- 7 (UTIL/HELLO)
CLUB LOGO

ONE

BY CINDY BUGNER (5TH GRADE)
TYPE A LEN- 6 (EDUC/EDUCA)
SIMILAR TO 'K POWER' USES INVERSE
POOR MAN'S PACKMAN
TYPE A LEN- 2 (GAMES/PGM.EXAMP)
RUN AND SEE

POS.DRILL ADJECTIVE

TYPE A LEN- 5 (EDUC/EDUCA)
EXAMPLE TO DRILL STUDENTS WITH. IN
THIS CASE WITH ADJECTIVES

PROBLEM 1

BY SEAN MCCREA (5TH GRADE)
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MATH EXAMPLE

PROBLEM 2

BY SEAN MCCREA (5TH GRADE)
TYPE B LEN- 6 (EDUC/EDUCA)
USED WITH MATH EXAMPLE

STRING ARRANGER

BY MAURICE CHAMPAGNE (NIAUS MEMBER)
TYPE A LEN- 7 (UTIL/PGM.UTIL)
SUBROUTINE TO FORMAT TEXT ON THE
SCREEN

STRING ARRAY MOVER

BY MAURICE CHAMPAGNE (NIAUS MEMBER)
TYPE A LEN- 7 (UTIL/PGM.UTIL)
SUBROUTINE TO FORMAT TEXT ON THE
SCREEN

UNPACK

TYPE B LEN- 2 (UTIL/HELLO)
DISPLAYS LOGO

MTW

BY JOHN TUEGEUL (5TH GRADE)
TYPE A LEN- 3 (EDUC/EDUCA)
SIMILAR TO 'K POWER' USES BELL

Z PROG.LIST

TYPE T LEN- (MISC)
TEXT FILE CONTAINS PROGRAM
DESCRIPTIONS USED BY 'A DISK
SUMMARY'

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** DISK VOLUME # 82 **

DIVERSI-COPY

BY BILL BASHAM
 TYPE LEN- (UTIL/DISK)
 WILL COPY ALL UNPROTECTED PASCAL
 CPM DOS 3.3 AND PRODOS DISKS. IT
 CAN'T COPY PROTECTED PROGRAM DISKS
 BUT IT USUALLY WILL COPY DATA DISKS
 PRODUCED BY THESE PROGRAMS. WORKS
 ON APPLE //C //E OR II+ COMPATIBLE
 COMPUTERS.

** DISK VOLUME # 83 **

AVON.REC.DEMO

TYPE T LEN- 45 (BUS/FIN)
 COMPLEX ANALYSIS OF THE PROFIT AND
 BUSINESS EXPENSE ASSOCIATED WITH A
 SERIES OF AVON SALES CAMPAIGNS

BANK.RECON

BY D SCELLATO
 TYPE T LEN- 24 (BUS/FIN)
 COMPUTES WHETHER OR NOT A BANK
 STATEMENT FOR A BUSINESS AGREES
 WITH THE FINANCIAL RECORDS. SEE
 'CATALOG' TEMPLATE FOR INSTRUCTIONS

BUDGET.TEMPLATE

BY J CONKLIN
 TYPE T LEN- 31 (BUS/FIN)
 ALLOWS THE INSERTIONS OF MONTHLY
 INCOME AND EXPENSE DATA FOR A WIDE
 VARIETY OF INCOME AND EXPENSE
 CLASSIFICATIONS. MONTHLY SUMMARIES
 ARE PROVIDED ALONG WITH RUNNING
 TOTALS

CATALOG

BY D SCELLATO
 TYPE T LEN- 11 (INFO)
 THIS TEMPLATE LISTS AND BRIEFLY
 DESCRIBES EACH TEMPLATE ON THE DISK

CHECK.MASTER

BY D SCELLATO
 TYPE T LEN- 60 (BUS/FIN)
 THIS TEMPLATE IS A CHECK LEDGER.

COMP.SHOP.DEMO

BY D SCELLATO
 TYPE T LEN- 19 (BUS/FIN)
 DEMO FOR 'COMP.SHOPPER'

COMP.SHOPPER

BY D SCELLATO
 TYPE T LEN- 17 (BUS/FIN)
 ALLOWS USER TO SELECT THE MINIMUM
 PRICE OF EACH ITEM OFFERED BY 3
 DIFFERENT STORES. HE MAY HAVE TO
 TRAVEL FROM STORE TO STORE TO
 OBTAIN THE ABSOLUTE LOWEST PRICE OR
 HE MAY JUST SELECT THE STORE WITH
 THE LOWEST STORE PRICE.

DEMO.NET.WORTH

BY D SCELLATO
 TYPE T LEN- 30 (BUS/FIN)
 DEMO FOR 'NET.WORTH'

HELLO

BY J ZEINZ
 TYPE A LEN- 6 (UTIL/HELLO)
 DISK HELLO PROGRAM WHICH DISPLAYS
 NIAUG LOGO

HELLO.IAC#37

TYPE A LEN- 7 (UTIL/HELLO)
 HELLO PROGRAM FOR IAC DISK #37

** DISK VOLUME # 83 **

INCOME.TAX.DEMO

TYPE T LEN- 15 (BUS/FIN)
 INCOME TAX DEMO. SEE TEMPLATE
 'CATALOG' FOR INSTRUCTIONS.

LINEAR.REG

BY W LISWOOD
 TYPE T LEN- 21 (BUS/MATH)
 LINEAR REGRESSION - TEMPLATE
 COMPUTES THE SLOPE Y INTERCEPT &
 CORRELATION FACTOR OF 15 POINTS
 LISTED AS X & Y VALUES ON THE
 SHEET.

NET.WORTH

BY J CONKLIN-D SCELLATO
 TYPE T LEN- 30 (BUS/FIN)
 THIS TEMPLATE WORKS DOWN THE LENGTH
 OF A FEW COLUMNS. IT BUILDS FROM A
 SERIES OF WORKSHEETS TO A NET WORTH
 STATEMENT BY BRINGING THE SUBTOTALS
 OF EACH ASSET OR LIABILITY SHEET TO
 THE APPROPRIATE LINE IN THE
 STATEMENT.

NIAUG.LOGO

BY J ZEINZ
 TYPE B LEN- 7 (UTIL/HELLO)
 CLUB LOGO

PEARSON.PRODUCT

BY W LISWOOD
 TYPE T LEN- 11 (BUS/MATH)
 TEMPLATE COMPUTES THE PEARSON
 PRODUCT MOMENT COEFFICIENT FROM X
 AND Y DATA INPUT BY USER.

SMALL.BUS.DEMO

BY D SCELLATO
 TYPE T LEN- 19 (BUS/FIN)
 DEMO FOR 'SMALL.BUS.START'

SMALL.BUS.START

BY D SCELLATO
 TYPE T LEN- 14 (BUS/FIN)
 MAY BE USED TO PLAN THE FIRST YEAR
 CASH FLOW FOR A SMALL BUSINESS.

SPEARMAN.RANK

BY W LISWOOD
 TYPE T LEN- 8 (BUS/MATH)
 TEMPLATE COMPUTES THE SQUARE OF THE
 DIFFERENCE BETWEEN TWO RANKED
 SCORES. RANK TO BE PRECOMPUTED BY
 THE USER. IT THEN COMPUTES THE
 CORRELATION OF THE DIFFERENCED
 BETWEEN RANKS LISTED.

STOCK.ANALYSIS

TYPE T LEN- 15 (BUS/FIN)
 TEMPLATE ALLOWS USER TO COMPUTER
 THE LONG AND SHORT TERM GAINS OR
 LOSSES OF HIS PORTFOLIO.

TEMP.DOC

BY D SCELLATO
 TYPE T LEN- 40 (INFO)
 CONTAINS DISK DOCUMENTATION

UNPACK

TYPE B LEN- 2 (UTIL/HELLO)
 DISPLAYS LOGO

VISICALC D FILE PRINTER

TYPE A LEN- 12 (BUS)
 PRINTS D FILES

VISICALC FILE CHECKER

TYPE A LEN- 8 (BUS)
 LIST VISICALC FILES

VISICALC FORMULAS

BY JOE SOBEL
 TYPE A LEN- 14 (BUS)
 LIST VISICALC FORMULAS

** DISK VOLUME # 83 **

VISICALC FORMULAS INSTRUCTIONS

TYPE A LEN- 6 (BUS)
 INSTRUCTIONS FOR 'VISICALC FORMULAS'
 VISILIST
 TYPE A LEN- 2 (BUS)
 LIST VISICALC TEMPLATES

** DISK VOLUME # 84 **

STOCKPAK II DEMO

TYPE LEN- (BUS/PGM.EXAMP)
 STANDARD & POOR'S STOCKPAK II
 SYSTEM DEMO DISK. GIVES AN OVERVIEW
 AND EXPLAINS SOME OF FEATURES THAT
 THIS PRODUCT CAN OFFER.

** DISK VOLUME # 85 **

DIVERSI-DIAL(TH)

BY BILL BASHAM
 TYPE LEN- (HARDW/OPER)
 ALLOWS YOU TO TURN YOUR APPLE INTO
 A CB SIMULATOR WITH UP TO 7 LINES.
 THIS PROGRAM USES THE APPLE CAT II
 MODEMS.

** DISK VOLUME # 86 **

STAR TREK ADVENTURE

BY KEVIN MORGAN (NIAUG)
 TYPE LEN- (GAMES)
 ADVENTURE GAME WHERE YOU TRY TO
 FIND THE TORN TREATY

** DISK VOLUME # 87 **

A DISK SUMMARY

BY JIM PFEIFFER
 TYPE A LEN- 16 (UTIL/HELLO)
 DISPLAYS PROGRAM DESCRIPTIONS AND
 ALLOW THEM TO BE RUN BY A NUMBER
 SELECTION

APPLESOFT

BY JIM PFEIFFER
 TYPE I LEN- 7 (HOME)
 NIAUG HELLO PROGRAM

BANK RECONCILIATION

BY RICHARD ROMAN (NIAUG)
 TYPE T LEN- 32 (HOME/FIN)
 VISICALC TEMPLATE USED WITH THE
 INSTRUCTIONS WILL ALLOW THE USER TO
 DO A DETAIL BANK RECONCILIATION FOR
 A MONTH

CHECK BOOK

BY MICHAEL BEYERS
 TYPE A LEN- 42 (HOME/ACTNG)
 DATA STORAGE AND RETRIEVAL PROGRAM
 THAT ALLOWS FOR THE RECORDING OF
 CHECKS POSTING ACCOUNT TOTALS AND
 RESOLVING OF THESE TOTALS AGAINST A
 BANK STATEMENT

CHECK1

BY MICHAEL BEYERS
 TYPE T LEN- 2 (HOME/ACTNG)
 USED WITH CHECK BOOK

CPI.1.1

BY DONALD L'AMOREUX (NIAUG)
 TYPE B LEN- 5 (BUS)
 USED WITH GOOD OLD DAYS

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** DISK VOLUME # 87 **

CPI.2.1
BY DONALD L'AMOREUX (NIAUG)
TYPE B LEN- 5 (BUS)
USED WITH GOOD OLD DAYS

CPI.2.2
BY DONALD L'AMOREUX (NIAUG)
TYPE B LEN- 5 (BUS)
USED WITH GOOD OLD DAYS

CPI.4.1
BY DONALD L'AMOREUX (NIAUG)
TYPE B LEN- 5 (BUS)
USED WITH GOOD OLD DAYS

CPI.TITLE
BY DONALD L'AMOREUX (NIAUG)
TYPE B LEN- 5 (BUS)
USED WITH GOOD OLD DAYS

ESTIMATED TAXES
BY JOHN BULTER (NIAUG)
TYPE A LEN- 39 (BUS/FIN)
CALCULATES 10 YEAR AVERAGING (4972)
- ESTIMATED TAX LIABILITY INCLUDING
EARNINGS SUBS TO TAX ON SOCIAL
SECURITY PAYMENTS, TAX SCHEDULES
MAY BE UPDATED FOR SUBSEQUENT YEARS

FA INTRO
BY LEN MICHAELS (NIAUG)
TYPE A LEN- 12 (BUS/EDUCA)
USED WITH FORMULA ANALYZER

FA.LINE INSERT
BY LEN MICHAELS (NIAUG)
TYPE B LEN- 2 (BUS/EDUCA)
USED WITH FORMULA ANALYZER

FA.PIX
BY LEN MICHAELS (NIAUG)
TYPE B LEN- 34 (BUS/EDUCA)
USED WITH FORMULA ANALYZER

FORMULA ANALYZER
BY LEN MICHAELS (NIAUG)
TYPE A LEN- 21 (BUS/EDUCA)
ALLOWS USER TO INSERT AN EQUATION
INTO THE PROGRAM AND SOLVE FOR A
SPECIFIED RANGE ON THE UNKNOWN.
FEATURES- DECIMAL FORMATTING -
PRINTER INTERFACE - PLOTTING - EASY
EDITING - ERROR TRAPPING

GOOD OLD DAYS
BY DONALD L'AMOREUX (NIAUG)
TYPE A LEN- 16 (BUS)
A TUTORIAL ON THE CONSUMER PRICE
INDEX AND CALCULATIONS FOR YEAR TO
YEAR COMPARISONS

HELLO
BY JOE ZEINZ
TYPE A LEN- 7 (UTIL/HELLO)
HELLO PROGRAM DISPLAYS NIAUG DISK
TITLE

HRTABLES(ES)
BY JOHN BULTER (NIAUG)
TYPE T LEN- 5 (BUS/FIN)
USED WITH ESTIMATED TAXES

INSTRUCTIONS
BY RICHARD ROMAN (NIAUG)
TYPE T LEN- 18 (HOME/FIN)
INSTRUCTION ON HOW TO USE BANK
RECONCILIATION, APPLE WRITER II
FORMAT

LOTTO
BY ROB STEWART (NIAUG)
TYPE A LEN- 36 (MISC)
TRACK AND GRAPH LOTTO RESULTS.
CHECK YOUR REGULAR PICKS AGAINST
THE NEWEST WINNING NUMBER.

** DISK VOLUME # 87 **

LOTTO LUCK
BY LARRY CARR (NIAUG)
TYPE A LEN- 14 (MISC)
ENTER LOTTO NUMBERS AND SEE HOW
LONG THE COMPUTER CAN MATCH ALL OF
THEM IN ONE SET OF 6 RANDOM NUMBERS

LOTTO PICKS
BY ROB STEWART (NIAUG)
TYPE T LEN- 7 (MISC)
USED WITH LOTTO

LOTTO RESULTS - IL
BY ROB STEWART (NIAUG)
TYPE T LEN- 8 (MISC)
USED WITH LOTTO

NIAUG.LOGO
BY JOE ZEINZ
TYPE B LEN- 10 (UTIL/HELLO)
CLUB LOGO

TAX TABLES(ES)
BY JOHN BULTER (NIAUG)
TYPE A LEN- 25 (BUS/FIN)
USED WITH ESTIMATED TAXES

TAXES HELLO
BY JOHN BULTER (NIAUG)
TYPE A LEN- 9 (BUS/FIN)
INSTRUCTIONS FOR ESTIMATED TAXES

TELEPHONE NUMBER WORDS
BY BRIAN LENDZION (NIAUG)
TYPE A LEN- 14 (MISC)
WILL COMPUTE EVERY POSSIBLE WORD
(LETTER COMBINATION) THAT CAN BE
MADE FROM A 7 DIGIT TELEPHONE
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'CARPETS'

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TYPE B LEN- 2 (UTIL/HELLO)
USE TO DISPLAY NIAUG LOGO

Z PROG.LIST
TYPE T LEN- (MISC)
CONTAINS PROGRAM DISCRPTIONS. USED
A 'A DISK SUMMARY'

** DISK VOLUME # 88 **

A DISK SUMMARY
BY JIM PFEIFFER
TYPE A LEN- 16 (UTIL/HELLO)
DISPLAYS PROGRAM DESCRIPTION AND
ALLOWS THEM TO RUN BY A NUMBER
SELECTION

APPLESOFT
BY JIM PFEIFFER
TYPE I LEN- 7 (UTIL/HELLO)
NIAUG HELLO PROGRAM

BIBLE QUOTES
BY JAMES WIEDMAN (NIAUG)
TYPE T LEN- 5 (EDUC)
USED WITH MR AUTHOR

BL'S TOUGH TEST
BY BRIAN LENDZION (NIAUG)
TYPE A LEN- 85 (HOME/EDUCA)
ASKS MULTIPLE CHOICE QUESTIONS AND
ACCEPTS THE ANSWER THROUGH USE OF
THE GAME PADDLE

CHEM.DATA
BY JOE ZEINZ (NIAUG)
TYPE T LEN- 9 (EDUC)
USED BY CHEMICAL BALANCER

** DISK VOLUME # 88 **

CHEMICAL BALANCER
BY JOE ZEINZ (NIAUG)
TYPE A LEN- 20 (EDUC)
BALANCES DOUBLE DISPLACEMENT
CHEMICAL EQUATIONS

COMPUTER COMMANDS
BY JAMES WIEDMAN (NIAUG)
TYPE T LEN- 4 (EDUC)
USED WITH MR AUTHOR

COUNTING
BY MILLIE SCOTT (NIAUG)
TYPE A LEN- 18 (EDUC)
DEVELOPED FOR A PRIMARY 8P. ED.
CLASS TO PRACTICE THEIR NUMBERS

ENVIRONMENT EFFECT
BY JOE ZEINZ (NIAUG)
TYPE A LEN- 28 (EDUC)
DEMONSTRATES THE EFFECT OF THE
ENVIRONMENT ON A GIVEN SPECIES WITH
DIFFERENT GENETIC CHARACTERISTICS

FRST
BY JAMES WIEDMAN (NIAUG)
TYPE A LEN- 25 (EDUC)
USED WITH MR AUTHOR - FILE NAME IS
F(CNTL I)FRST

HELLO
BY JAMES WIEDMAN (NIAUG)
TYPE A LEN- 23 (EDUC)
INSTRUCTION FOR MR AUTHOR. FILE
NAME IS H(CNTL E)ELLO

HELLO
BY JOE ZEINZ
TYPE A LEN- 8(UTIL/HELLO)
HELLO PROGRAM DISPLAYS NIAUG LOGO
AND TITLE THEN RUN 'A DISK SUMMARY'

KEY
BY JAMES WIEDMAN (NIAUG)
TYPE T LEN- 2 (EDUC)
USED WITH MR AUTHOR

MATH
BY JAMES WIEDMAN (NIAUG)
TYPE T LEN- 4 (EDUC)
USED WITH MR AUTHOR

MATH DRILL
BY DEBBIE CICHANSKI (NIAUG)
TYPE A LEN- 14 (EDUC)
EXERCISES IN THE 4 BASIC MATH
SKILLS WITH AUTOMATIC SCORING AND
CHOICE OF DIFFICULTY LEVEL

MR AUTHOR
BY JAMES WIEDMAN (NIAUG)
TYPE A LEN- 36 (EDUC)
AN INTEGRATED SET OF TEACHER
UTILITIES TO ALLOW FOR EASE OF
ENTRY OF FILL-IN THE BLANK
QUESTIONS FOR STUDENT USE ON THE
COMPUTER OR ON PAPER. FILE NAME IS
MR (CNTL A)AUTHOR

MULTI TABLE HELLO
BY RALPH MEYER (NIAUG)
TYPE A LEN- 10 (EDUC)
INSTRUCTION FOR MULTI-TABLE

MULTI-TABLE
BY RALPH MEYER (NIAUG)
TYPE A LEN- 10 (EDUC)
PROGRAM FOR TEACHERS TO USE IN
HELPING STUDENTS INCREASE THEIR
SPEED IN MULTIPLICATION

NIAUG.LOGO
BY JOE ZEINZ
TYPE B LEN- 7 (UTIL/HELLO)
CLUB LOGO

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** DISK VOLUME # 88 **

PRGMR'S NOTES FOR TOUGH TEST
 BY BRAIN LENDZION (NIAUG)
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 INSTRUCTIONS FOR BL'S TOUGH TEST
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 BY JAMES WIEDMAN (NIAUG)
 TYPE T LEN- 3 (EDUC)
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 SOFTWARE/TRAINING INFORMATION
 BY JAMES WIEDMAN (NIAUG)
 TYPE A LEN- 4 (EDUC)
 USED WITH MR AUTHOR
 TITLE FILE
 BY JAMES WIEDMAN (NIAUG)
 TYPE T LEN- 2 (EDUC)
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 TOUGH TEST INFO (START HERE)
 BY BRAIN LENDZION (NIAUG)
 TYPE A LEN- 14 (HOME/EDUCA)
 INSTRUCTIONS FOR BL'S TOUGH TEST
 UNPACK
 TYPE B LEN- 2 (UTIL/HELLO)
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 TYPE T LEN- (MISC)
 CONTAINS PROGRAM DESCRIPTIONS. USED
 BY 'A DISK SUMMARY'

** DISK VOLUME # 89 **

A DISK SUMMARY
 BY JIM PFEIFFER
 TYPE A LEN- 16 (UTIL/HELLO)
 DISPLAYS PROGRAM DESCRIPTION AND
 ALLOWS THEM TO BE RUN BY A NUMBER
 SELECTION
 APPLESOFT
 BY JIM PFEIFFER
 TYPE I LEN- 7 (UTIL/HELLO)
 NIAUG HELLO PROGRAM
 BLUE
 BY MICHAEL FINK (NIAUG)
 TYPE T LEN- 5 (HOME)
 USED BY BOWLING TEAM SCORES &
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 BOWLING 1 DRIVE
 BY ELIZABETH ROOMBOS (NIAUG)
 TYPE A LEN- 24 (HOME)
 KEEPS RECORDS FOR A BOWLING LEAGUE
 - 1 DISK DRIVE SYSTEM
 BOWLING 2 DRIVES
 BY ELIZABETH ROOMBOS (NIAUG)
 TYPE A LEN- 35 (HOME)
 KEEPS RECORDS FOR A BOWLING LEAGUE
 - 2 DISK DRIVE SYSTEM
 BOWLING HELLO
 BY ELIZABETH ROOMBOS (NIAUG)
 TYPE A LEN- 6 (HOME)
 MENU PROGRAM FOR BOWLING PROGRAMS
 BY E ROOMBOS
 BOWLING INSTRUCTIONS
 BY ELIZABETH ROOMBOS (NIAUG)
 TYPE A LEN- 20 (HOME)
 INSTRUCTION FOR BOWLING PROGRAMS
 BY E ROOMBOS
 BOWLING TEAM SCORES & GRAPHS
 BY MICHAEL FINK (NIAUG)
 TYPE A LEN- 23 (HOME)
 VIEW AND GRAPH EACH BOWLERS
 PROGRESS THROUGH OUT THE SEASON

** DISK VOLUME # 89 **

BROWN
 BY MICHAEL FINK (NIAUG)
 TYPE T LEN- 5 (HOME)
 USED BY BOWLING TEAM SCORES &
 GRAPHS
 FLAG
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 FRAME.1
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 FRAME.2
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 FRAME.3
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 FRAME.4
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 FRAME.5
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 HELLO
 BY JOE ZEINZ
 TYPE A LEN- 8 (UTIL/HELLO)
 HELLO PROGRAM DISPLAYS LOGO AND
 TITLE THEN RUNS 'A DISK SUMMARY'
 HELLO.1.SCREEN
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 HELLO.2.SCREEN
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 INFO SCREEN Q.1
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 INFO SCREEN Q.1.UC
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 JABBERWOCKY
 BY NOAH GOLDMAN (NIAUG)
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 BY NOAH GOLDMAN (NIAUG)
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 USED WITH TEXT SCREEN EDITOR
 JABBERWOCKY.3
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 JABBERWOCKY.4
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 JONES
 BY MICHAEL FINK (NIAUG)
 TYPE T LEN- 5 (HOME)
 USED BY BOWLING TEAM SCORES &
 GRAPHS

** DISK VOLUME # 89 **

NELSON
 BY MICHAEL FINK (NIAUG)
 TYPE T LEN- 6 (HOME)
 USED BY BOWLING TEAM SCORES &
 GRAPHS
 NIAUG.LOGO
 BY JOE ZEINZ
 TYPE B LEN- 7 (UTIL/HELLO)
 CLUB LOGO
 NOAH'S ARK
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 GUILT.1
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 GUILT.2
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 GUILT.3
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 SCREEN 2 PRINTOUT B
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 2 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 SCREEN INSTR
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 26 (UTIL)
 USED WITH TEXT SCREEN EDITOR
 SMITH
 BY MICHAEL FINK (NIAUG)
 TYPE T LEN- 5 (HOME)
 USED BY BOWLING TEAM SCORES &
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 TEXT SCREEN EDIT HELLO
 BY NOAH GOLDMAN (NIAUG)
 TYPE A LEN- 5 (UTIL)
 INSTRUCTION TO RUN TEXT SCREEN EDIT
 TEXT SCREEN EDITOR Q.4
 BY NOAH GOLDMAN (NIAUG)
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 ALLOWS FORMATTING AND EDITING ON
 TEXT SCREEN PAGES
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 BY NOAH GOLDMAN (NIAUG)
 TYPE A LEN- 61 (UTIL)
 ALLOWS FORMATTING AND EDITING ON
 TEXT SCREEN PAGES - UPPER CASE
 VERSION
 TEXT SCREEN INSTR
 BY NOAH GOLDMAN (NIAUG)
 TYPE A LEN- 5 (UTIL)
 INSTRUCTION FOR TEXT SCREEN EDITOR
 TEXT.SCROLLER
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 2 (UTIL)
 USED BY TEXT SCREEN EDITOR
 UNPACK
 TYPE B LEN- 2 (UTIL/HELLO)
 DISPLAYS LOGO
 WHITE
 BY MICHAEL FINK (NIAUG)
 TYPE T LEN- 5 (HOME)
 USED BY BOWLING TEAM SCORES &
 GRAPHS
 Z PROG.LIST
 TYPE T LEN- (MISC)
 CONTAINS PROGRAM DESCRIPTION. USED
 BY 'A DISK SUMMARY'

** DISK VOLUME # 90 **

A DISK SUMMARY
 BY JIM PFEIFFER
 TYPE A LEN- 16 (UTIL/HELLO)
 DISPLAYS PROGRAM DESCRIPTIONS AND
 ALLOWS THEM TO RUN BY A NUMBER
 SELECTION
 APPLE.SCREEN.1
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY LO-RES SCREEN EDITOR
 APPLE.SCREEN.3
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY LO-RES SCREEN EDITOR
 APPLESOFT
 BY JIM PFEIFFER
 TYPE I LEN- 7 (UTIL/HELLO)
 NIAUG HELLO PROGRAM
 ASC.SET.6
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY LOW-RES EFFECTS
 ASC2.SET.6
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY LO-RES SCREEN EDITOR
 BIN.DOWNS
 BY JIM GLORE (NIAUG)
 TYPE B LEN- 6 (GAMES)
 USED BY GLORE DOWNS
 DAWN.1
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY LO-RES SCREEN EDITOR
 DAWN.2
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY LO-RES SCREEN EDITOR
 DAWN.SET.7
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY LO-RES SCREEN EDITOR
 DISC UTILITY
 BY JIM GLORE (NIAUG)
 TYPE I LEN- 47 (UTIL)
 ALLOWS USER TO SHOW FREE SECTORS -
 EXAMINE SECTORS - CALCULATE DISK
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 DISK FOR A VALUE - WRITE A SECTOR
 EARTH.1
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY LO-RES SCREEN EDITOR
 EARTH.SET.7
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY LO-RES SCREEN EDITOR
 EPSON RX-80 PRINTER SET-UP
 BY RICHARD EDISON (NIAUG)
 TYPE A LEN- 9 (UTIL)
 MENU DRIVEN PRINTER SETUP PROGRAM
 FOR THE EPSIN RX80
 GLORE DOWNS
 BY JIM GLORE (NIAUG)
 TYPE A LEN- 26 (GAMES)
 HORSE RACE GAME IN HIRES GRAPHICS
 HELLO
 BY JOE ZEINZ
 TYPE A LEN- 8 (UTIL/HELLO)
 HELLO PROGRAM DISPLAYS NIAUG LOGO
 AND TITLE THEN RUN 'A DISK SUMMARY'

** DISK VOLUME # 90 **

HI-RES LO-RES HELLO
 BY NOAH GOLDMAN
 TYPE A LEN- 5 (UTIL)
 DESCRIBES HI-RES EFFECTS AND LO-RES
 SCREEN EDITOR
 HI-RES.EFFECTS.2
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 9 (UTIL)
 COLLECTION OF MACHINE LANGUAGE
 ROUTINES TO MANIPULATE THE HI-RES
 SCREEN
 HI-RES.EFFECTS.2.DEMO
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 6 (UTIL)
 DEMO FOR HI-RES EFFECTS
 HI-RES.EFFECTS.2.P2
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 9 (UTIL)
 USED BY HI-RES EFFECTS
 HI-RES.EFFECTS.2.8
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 52 (UTIL)
 SOURCE CODE FOR HI-RES.EFFECTS.2
 HI-RES.HELLO
 BY NOAH GOLDMAN (NIAUG)
 TYPE A LEN- 8 (UTIL)
 DESCRIBES HI-RES EFFECTS PROGRAMS
 HISCORE.FILE
 BY DREW L'AMOREUX (NIAUG)
 TYPE T LEN- 3 (GAMES)
 USED BY META-BOUNCE
 JIM GLORE - HELLO
 BY JIM GLORE (NIAUG)
 TYPE A LEN- 4 (UTIL)
 MENU PROGRAM FOR JIM'S PROGRAMS
 LO-RES INFO SCREEN.D
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY LOW-RES EFFECTS
 LO-RES SCREEN EDITOR
 BY NOAH GOLDMAN (NIAUG)
 TYPE A LEN- 34 (UTIL)
 ENABLES YOU TO DESIGN ELABORATE
 LO-RES SCREENS THAT CAN BEAVED TO
 USE WITH YOUR PROGRAMS
 LO-RES.HELLO
 BY NOAH GOLDMAN (NIAUG)
 TYPE A LEN- 5 (UTIL)
 HELLO PROGRAM FOR LO-RES SCREEN
 EDITOR
 LO-RES.ROUTINES.TRAP
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 2 (UTIL)
 USED BY LO-RES SCREEN EDITOR
 LO-RES.ROUTINES.TRAP.8
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 12 (UTIL)
 SOURCE FOR LO-RES.ROUTINE.TRAP
 MENU.SCREEN.2
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY HI-RES EFFECTS
 MENU.SCREEN.2.UC
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY HI-RES EFFECTS
 META-BOUNCE
 BY DREW L'AMOREUX (NIAUG)
 TYPE A LEN- 28 (GAMES)
 TRY TO GRAB ALL THE BOMBS BEFORE
 THE EXPLODE

** DISK VOLUME # 90 **

META-BOUND
 BY DREW L'AMOREUX (NIAUG)
 TYPE B LEN- 2 (GAMES)
 USED BY META-BOUNCE
 MUPPETS
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 33 (UTIL)
 USED BY HI-RES EFFECTS
 NIAUG.LOGO
 BY JOE ZEINZ
 TYPE B LEN- 7 (UTIL/HELLO)
 NIAUG.LOGO
 UNC
 BY JIM GLORE (NIAUG)
 TYPE A LEN- 6 (UTIL)
 CONVERTS ANY 'APPLE' NUMBER INTO
 ALL OTHER POSSIBLE FORMS HEX AND
 DECIMAL
 UNPACK
 TYPE B LEN- 2 (UTIL/HELLO)
 DISPLAYS LOGO
 USE.HI-RES.EFFECTS
 BY NOAH GOLDMAN (NIAUG)
 TYPE A LEN- 12 (UTIL)
 USED BY HI-RES EFFECTS
 WELCOME.SCREEN.1
 BY NOAH GOLDMAN (NIAUG)
 TYPE B LEN- 5 (UTIL)
 USED BY LO-RES SCREEN EDITOR
 Z PROG.LIST
 TYPE T LEN- (MISC)
 CONTAINS PROGRAM DESCRIPTIONS. USED
 BY 'A DISK SUMMARY'

Niaug Disk Review
by Robert Rottman

The following is a review of Niaug Library Disks #65, #66 and #67.

Being relatively new at reviewing programs, but not at using them, I find myself being rather critical of the programs when maybe I shouldn't be. However, in many cases the programs did not live up to my expectations or they contained typo's which made me wonder if the rest of the program was as well debugged as the instructions.

Another criticism I have is that of incomplete instructions for the programs. In some cases there was no provision made for explaining how the program should work. Knowing how much time it takes to write a good program I would think it would be worth the author's time to at least tell the rest of us how it works.

And now the review:

Disk #65

Adventure Map is a grid which can be printed out on your printer for detailed mapping of your favorite adventure game(s). Included on the grid printout is space for the adventure's title, date, inventory and comments. Nicely done.

Banner Printing programs come in two varieties: asterisk filled letters or a message within the banner letters. The banner prints out sideways on your printer paper as well as on the screen. A fun utility!

Kevin Morgan, aged 12, has put some of us "old" folks to shame by submitting three graphics programs called Darts, Hi-res Darts, and the K-9 series including Dematerialization Simulation. All of these are very good programs for demonstrating the programming of games. They even allow room for customizing to your preference. Admittedly there are some bugs in error trapping and instruction presentation but an excellent effort overall.

The Eamon Resurrector is well documented for those players of the Eamon adventure series. These utilities allow you to resurrect your dead Eamon characters. There's even a fast resurrector for those in a big hurry.

The File DR\$ program is a text file utility allowing you to examine file values, recording the file with a new name, altering values in the file, changing file length. Not having enough experience with altering files outside of a program that generates its own text files I have not been able to judge the usefulness of such a utility.

Niaug Disk Review
by Robert Rottman

The Frac-Dec Converter is also written by Kevin Morgan and converts any numerator and denominator into a decimal, a number in cents and a number in dollars. Very nicely done. One problem when running this program from the Niaug Hello program is the it can't be done. The Hello program references a different spelling of "Converter" ("Convertor") and won't be able to find the file.

Mail is a data base series of utilities for accessing mail files, merging up to three files, printing labels up to three across. Input required from the user is the file or files and disk drive. The instructions seem to be scant and therefore require a little patience before fully utilizing the capabilities of this utility.

Print Demo demonstrates condensed and expanded printing capabilities of the Epson MX-100 printer.

Disk #66

Bar Graph Maker is a very handy graphing utility which allows printing the graph to your printer. A dozen values can be entered as well as minimum and maximum values desired on the graph. It takes about two minutes to print out each graph due to the printing subroutine. It would be helpful if this could be shortened.

Body Fat Calculator is one of those programs that you may be anxious to try but you won't believe the results (unless you look like Victoria P.). But go ahead and try it anyway but, don't say I didn't warn you.

Cat Printer prints out a nicely formatted report of your catalog by disk. The inputs you can enter are disk header, volume header, volume number, disk title and message. The last three items can be changed with each disk entered without rerunning the program.

Dump creates a hex and ascii dump of any dos file, displaying on the screen or printer.

Log program with instructions creates and maintains a time log using a Thunderclock compatible clock card. It features user named log files for multiple log projects. I do not have a clock card so I was unable to judge the capabilities of this program.

Niaug Disk Review
by Robert Rottman

Plurals is an educational program that lets you study the rules for forming plural nouns, quizzing yourself on plurals nouns (my six year old loves this part), and enter or edit a list of plural nouns. This is a very easy to use program as well as being educational.

Slider is not a program about hamburgers but a utility for those requiring a computer slide presentation of hi-res pictures. The program includes fourteen sample pictures on the flip side of the disk. The program features auto or manual operation, from a catalog or pictures of your selection. A file sorter is included for sorting the pictures in any order you desire. From auto mode, the display time can be selected by you and the direction of presentation (forward or backward) changed with the arrow keys while the presentation is in progress. The program even allows for a custom title page with four lines of any message. An excellent utility worth the price of the disk alone! The only glitch I found was in using 64k Diversi-Dos the program won't be able to catalog the slide disk. However, using regular Diversi-Dos presented no problems.

Disk #67

Draw is a hires drawing program allowing you to draw on the hgr2 screen using the 46 fill colors and seven standard Apple colors. Considering the cost, this is a remarkably versatile program.

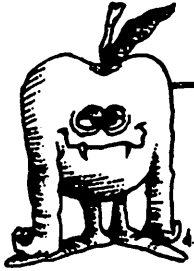
The instructions can and should be printed out for reference while drawing with Draw. It would have been nice for the author to have included a summary of the commands for easy reference.

Circles, ellipses, squares, and rectangles can be drawn with simple key commands. Colors of both backgrounds and the two cursors can be easily changed. The fill routine uses 46 different and beautiful colors.

There is a slide demo program to exhibit the twenty pictures included on the disk presumably drawn with Draw.

There are also pack and unpack routines to minimize the amount of disk space a hi-res picture utilizes.

If you are already a user of a drawing program Draw may not be what you are looking for. However, if you have not delved into the graphics capabilities of your Apple computer this is certainly an inexpensive alternative with many of the capabilities of the more expensive programs. An excellent program by Mickey Fink.



northern illinois apple users group

1271 West Dundee Road, Buffalo Grove, IL. 60090

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NOTE: Information obtained from this application is solely for the use of the NORTHERN ILLINOIS APPLE USERS GROUP (NIAUG). Membership lists will not be distributed to members or non-members.

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Benefits the group can provide for you _____

Benefits you would like to provide to the group _____

Comments _____

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Refund of overpayment: Check # _____ Amount \$ _____ Initials _____

INDUSTRY NEWS

Eye On the Industry.....by Al Guthrie

Apple Items

The Lisa is now known as an oversized Mac. Apple sales for the year are up 54%, earnings are down 17%, the result of the advertising wars.

Corvus has a local area net device for the Mac that will connect up to 63 computers.

Eicon Research has a floppy drive for the II+ and IIe that will format disks to hold a megabyte. Called the Tera-drive, it sells for \$995 and comes with an enhanced operating system which is DOS 3.3 compatible.

See You All In Court

Apple vs Bell Computer for copyright infringement. Apple hired a private eye to check on Bell because Bell was to announce an Apple compatible. The P.I., under an assumed name, tried to buy a bunch of these semi-Apples, but Bell thought he looked shady, suspected fraud, and called the cops. Police traced him to Apple. Maybe next time they should hire Tom Selleck.

Apple vs Anthro-Digital for distributing disks with copies of DOS 3.3., particularly to Bell Computer

Computronics, owner of a Madison WI computer store, vs Apple for price discrimination. The U. of Wisconsin gets to sell Apples at less than retailer cost. What really hurts; the students come into the store for demonstrations and support, then go back to the school to buy.

If You Can't Beat 'em

Xerox will sell Apples to Central and South America. They already sell them to Canada and France.

How The Empire Disturbs The Force.

IBM wants to buy Rolm Corp, maker of telephone equipment, computerized switchboards, etc. AT&T can't intimidate Ma IBM.

latest move in the software wars: IBM is giving dealers software on consignment. Everybody else wants cash up front for inventory. The object of the exercise is to

elbow everybody else off the dealers' shelf.

Responding to dealer gripes that they lost a bundle when the last price cut caught them with over-priced inventory, IBM has announced a 60 day price protection policy and made it retroactive.

The IBM warehouse must be full. They are offering dealer rebates on the whole PC line, but only if the dealer exceeds his previous orders. Which means many stores will over-order to get the rebate and will wind up overstocked. Then IBM's warehouse problem will be the dealers warehouse problem. Some stores may go in for heavy after-Xmas discounting if that happens.

The IBM 3270 is a high-end personal computer favored by large corporations that need units that can talk to the big IBM mainframe in the basement. IBM always sold these direct, claiming no simple-minded retailer could be trusted to do the job right. Recently, the Businessland chain bragged that IBM had agreed to let them handle this electronic marvel. Shortly thereafter IBM announced the new, improved 3270. No, Businessland won't be allowed to sell it. They just get stuck with the obsolete iron.

Horizons Unlimited

205 Lakeshore Drive

Lindenhurst, Illinois 60046

SHAPE TABLES ARE EASY!-but only with the DRAWINGBOARD, an automatic shape table creator. Explore the world of Apple hi-res graphics, but without the hassle of creating your shape tables by hand. Just draw from the keyboard (NO extra hardware), and create any hi-res shapes you want. Modify your shapes, merge shape tables, build and edit hi-res pictures, save them in normal or compressed format, dump pictures to your printer, and more. Works with any shape tables, not just your own. Includes a completely relocatable picture compressor/expander to be used with your own BASIC programs. For Apple II+, IIe, IIC. Professionally packaged. \$24.95 check or money order. Includes shipping. Horizons Unlimited, Creative Software,

Compaq points out that the only machine compatible with the whole IBM line is not IBM's, it's the Compaq Deskpro.

Life On The Street Is Hard.

Sanyo will enter the retail market in a big way by bringing out a line of IBM compatibles, beginning with a transportable designed to compete with Compaq.

Data General wants to break into retail stores with the Data General/One portable. It's an IBM compatible with a 3.5" floppy.

Chapter 11. . .

Actrix must file an acceptable reorganization plan by Dec. 6 or be liquidated.

Franklin is liquidating its assets and will stay in business just long enough to collect its receivables for the benefit of the creditors.

. . . And Counting?

Tandy will drop the Radio Shack name from its entire computer line, hoping to shed the Trash-80 image.

TI has announced an IBM semi-compatible portable. Meantime, sales of its desktop unit continue to decline.

Vector Graphics has cut its work force by 100, leaving about 50 people in a 120,000 sq. foot building. Makes for roomy offices.

Visicorp plans to merge with Paladin Software, a start-up company that hasn't delivered anything yet. The upstart will rename the merged business Paladin and will also name the new management, which will not include many names from Visicorp.

Magnetic Moments.

The personal computer industry shakeout was bound to affect suppliers and peripheral manufacturers, but floppy drive and disk manufacturers have been especially hard hit.

For example:

Dysan wanted to set the standard for the sub-5.25 inch floppy market. They settled on the 3.25 inch format. As we know, the Mac and others decided on a 3.5 inch format. That helped put Tabor, the only U.S. manufacturer of 3.25 inch drives, out of business. Dysan was a major investor in Tabor, and has a warehouse full of 3.25 disks looking for a home. With one thing and another they managed to turn a \$65 million cash reserve into a \$25 million debt. Attempting to recover, Dysan abandoned its venture capital investments in various companies and laid off over 500 workers. One of the investments dropped was the disk drive maker Amlyn. Amlyn laid off half its work force and its president resigned. Then Dysan announced it was selling 60% of the company to Xidex Corp. and would

become an independent subsidiary. Since Dysan will now buy its raw disk stock from Xidex, this will affect 3M, the former supplier. Dysan accounted for 30% of 3M's sales.

Seagate was another of the companies financed by Dysan, but it became successful and operates without help. Then last quarter their profits dropped drastically. IBM accounts for 59% of Seagate's business, making them vulnerable to sudden changes in IBM's buying plans. The company co-founder has left.

Verbatim laid off 175 and called it "streamlining". I don't know what they called it last January when they laid off 285. Anyway, they lost nearly \$9 million last quarter. Some of their problem stems from a drop in shipments while they worked on design changes demanded by one customer. When you try to think of a customer that could insist on that kind of suicidal behavior you have to think IBM.

Meanwhile, Kodak has decided to sit in on this game. Last year they licensed the rights to a floppy drive manufactured by Drivetec. It's being sold by Data Technology, a subsidiary of Atex which is wholly owned by Kodak. Next, Kodak will sell disks (under the Kodak name) manufactured by Dysan, Xidex and TDK. Xidex said they would become a long term partner with Kodak. What Kodak said, however, was that they would soon be manufacturing their own disks.

Qume, the printer and floppy drive maker, moved all production off-shore and laid off 600 earlier this year. Now they have had a second round of lay-offs, this time headquarters staff. The problem? They expected to sell a ton of drives to IBM for the PCjr. When junior didn't sell, the drive orders didn't come.

Drive manufacturer Miniscribe laid off 25% of its workers.

Magnetic Peripherals is moving floppy drive manufacturing off shore and will drop 450 jobs in the States.

STC (Storage Technology), maker of IBM plug-compatible peripherals, is in Chapt.11 and its president resigned.

Shugart closed a plant and laid off 270. Another 200 are to go.

Seasons Greetings.

Considering the time lag between writing one of these columns and seeing it in print, I'll have to be a little less topical. For instance, a remark about how well the Cubs were doing arrived in my mailbox in November. Since this is being written in November, let me be the first to wish you all a happy Easter.

BOOK REVIEWS

32 Basic Programs for the Apple Computer

Author : Tom Rugg & Phil Feldman
Publisher : Dilithium Press
Price : \$39.95 - includes diskette

Reviewed by Joe Zeinz, CDP

Now that most of you have bought your Apple computer, what do you do with it? If you have tried to learn how to program it, you may have found that the Applesoft Manual may be lacking something. Don't get me wrong, Apple's manual does try to explain what a given Applesoft command can do. But, how do you put these statements together to form a meaningful program? You may ask yourself, is this why I bought the computer, to become a frustrated programmer? You then realize that additional material could be helpful. A book that I recommend is "32 Basic Programs for the Apple Computer" by Tom Rugg and Phil Feldman.

This book contains 32 programs that will run on the Apple II family of computers. The Book is divided into several different categories. Hopefully one of them will spark some interest to encourage you on. These categories cover topics such as: Educational, Games, Applications, Mathematics, Graphic Displays, and other miscellaneous programs.

Each of the listed groupings has between four and six programs. So that you can work with the programs that interest you the most. Unlike other program books, "32 Basic Programs" comes complete with a diskette with all the programs listed in the book. This saves you a tremendous amount of time trying to type in all the lines of code of each program. I don't know how many times that I entered a program, printed in a magazine, only to find that there was a

typographical error(s). Some of the misprints would then take a great deal of time and effort to debug.

The programs in the book are well documented and each follow an outline, which is as follows.

Program Outline

- I. Purpose of the Program, what it does and why you might want to use it.
- II. How to use it.
- III. Sample Run
- IV. Program Listing.
- V. Discusses some Easy Changes.
- VI. Explains General Logic of Main Routines in the Program.
- VII. Explains Key Variables
- VIII. Suggests Major Changes that could be done.

For example, one of the programs in the book is called Checkbook. It tells you that some people have problems trying to balance their checkbooks and that the computer has an advantage by doing the arithmetic for you. There are explanations on how to use the Checkbook program and what it expects for input data. If the instructions are not clear, you can then look at the sample run. If you want to know what the program is doing, the source code is provided in the form of the program listing. It states that the supplied program can only handle up to 20 outstanding checks at one time, so as part of the easy change section, it tells what line number you should change if you want to raise this limit. The next section of this chapter discusses the program by line numbers as to the function that is performed. Followed a description of the important variables used in the program. The last topic for the Checkbook program suggests several projects that you can do on your own. Hopefully these enhancements will help you become a better programmer. Again this format is done for all the programs that is contained in the book.

This book by itself will not be able to teach you how to program. It does show you 32 examples and how they do work. Hopefully with these programs, you can review and analyze them to help increase your own understanding. When I started programming, the amount of reference material available was limited and very cryptic compared to the books of today. "32 Basic Programs for the Apple Computer" is a book that can be helpful for the new computer owner who wants to learn something about programming.

Like most things in life, learning to program is not going to happen over night. A good deal of time and energy will be spent before a person will be comfortable with any programming language. But once this bridge is crossed a whole new world of the computer can come alive for you. A lot of satisfaction can be gained, after spending time nurturing a program and finally have it perform the way that you wanted it to.

福 Happy Holidays

賀 Meilleurs Vœux

新 Felices Fiestas

禧 С НОВЫМ ГОДОМ

BOOK REVIEW

By: Don Fuller

Title:

**Apple Lisa:
A User-Friendly Handbook**

Author:

Joseph Coleman

Publisher:

Tab Books, Inc.

308 Pages — 1984

Price:

\$16.95

PROLOGUE:

Apple's LISA is a computer that is misunderstood by many since Apple has not really advertised it except to the business community— If you are looking for a book to tell you about the LISA, this is not it. As stated in the title, this is a handbook for the LISA user.

REVIEW:

Any extensive review is a waste of both your time and space in the *HARVEST*. The exercises are so elementary that any knowledge gained is nil and about all you are doing is taking time that could be better used pulling down the application menus, practicing on the LISA and experimenting on your own.

CONCLUSION:

Does anyone need the book? No. The LISA is easy to use and the supplied documentation is thorough, any handbook is superfluous... This particular book is out of date if you have version 3.0 software (7/7).

RATING:

On a scale of 1 to 10: -0.5
(Some of the Screen dumps are pretty grim!). You'll find it in the NIAUG paper library (maybe).

SOFTWARE REVIEWS

SOFTWARE REVIEW: Write Away
by Buzz Harris

```
*****
*                               SUMMARY OF VITAL STATISTICS                               *
*                               Publisher : Midwest Software Associates                       *
*                               1160 Appleseed Lane, St. Louis, Missouri 63132             *
*                               Type of Program : An Advanced Word Processor plus a Terminal Program *
*                               System Requirements : Apple IIe or II+ with 64K memory and shift key mod. *
*                               Desirable components : Printer, 80-column card, shift/control key mod. *
*                               Price : $175                                              *
*                               Rating : 4.75 stars out of a possible 5 (excellent)        *
*****
```

There are probably more word processing packages available for the Apple II series than for any other computer, despite the fact (or perhaps because of the fact) that the Apple is only marginally suited for word processing. So why bother with a review of still another word processing package? As always, the answer is that maybe this will be the one that unleashes the hidden potential of the Apple to imitate a dedicated word processor. Does Write Away accomplish that monumental feat? No way, but it does provide a full-featured word processor that will be a delight to the hacker lurking in all of us.

I will begin this review with a thumb-nail sketch so that those who are merely curious can satisfy that curiosity and get on to more productive pursuits. Write Away is an advanced word processor designed for business and serious personal users. It will take advantage of all the special features of the IIe, but it will still function quite nicely on a II+ with a RAM card and the shift key modification. It will automatically activate the IIe 80 column card and many of the other 80 column cards available for the II+ (it worked fine with a Videx Videoterm and the Applied Engineering Viewmaster 80).

The program has all of the standard features (such as the ability to move text, search and replace, reformat text, etc.), plus a few that are not so common (the ability to translate DIF files, the ability to define and use up to 10 macros, the use of logical operators and conditional statements to vary the wording of form letters, etc.). The area where Write Away really shines, however, is in printer interfacing and control. The program includes about 14 separate drivers which support over 30 popular printers, each of which can be controlled by the same codes hidden between transparency characters. Some other strong points in Write Away's favor are that it is not copy

protected (no back-up hassles!) and that it uses standard DOS 3.3 text files. The documentation is very good and includes tutorials (on disk and in the manual), a reference section, a quick reference card, a table of contents, and an index. The manual is very nicely bound in a padded 3-ring binder and is provided with index tabs for each chapter.

The new version of Write Away also contains a terminal communications program. At first this seemed like a very odd addition to a word processing program, but after some use and thought it makes good sense for many users. If you use your terminal primarily to access data on-screen and have no need for hardcopy, then you'll be better off staying with a dedicated terminal program. But if you are down-loading information that you want to print out, then what could more convenient than receiving it directly into the buffer of your word processor? You simply add some formatting and printer control commands, and you have a beautifully formatted document.

Now for the negatives -- this program is not easy to use. Perhaps this is just the price we have to pay for powerful features. The creators of Write Away have tried to help in this area by using mnemonically coded commands and by adding a "Help" screen to the new version. The fact remains, however, that a considerable effort is required to learn how to use this program effectively, and it would take regular use to retain any more than basic facility. The only other negative that I could note is that the scrolling is somewhat jerky. I had to try very hard and be very picky to identify these negatives, which may be the highest praise I could offer this excellent program.

With that overview out of the way, roll up your sleeves and let's really get into this program. The Write Away program has three main sections—the Edit routine, the Format routine, and the Terminal

routine. Any two of these routines are co-resident in memory at any given time. The Edit routine is always present, and you can toggle between Edit and either Format or Terminal by typing a control-p. Activating the Terminal routine from the normal word processing mode or the Format routine from the terminal mode requires reinsertion of the program disk. The program boots up to a menu offering selections between word processing, terminal operations, tutorials, and configuration routines. The boot process can be modified to bypass this step and go directly to your most frequently used mode.

Edit mode contains a full set of mnemonically coded commands that provide for cursor control, text insertion, text deletion, text substitution, block movement of text, search for a text string, and search-and-replace. Many of these commands can be used in either immediate or deferred modes. All of the formatting codes can be embedded in the text in the edit mode, or set before printout in the format mode. Embedded formatting codes are placed on a separate line from any text to be printed and preceded by a period. These embedded formatting codes give the user complete control over margins, line spacing, paragraph indentation, justification and fill, page numbering, page breaks, setting tabs, etc.

Printer control commands can also be inserted into the text from the edit mode by concealing them between two transparency characters, the back-slash. The characters used by the Write Away printer drivers are always the same for any given function (ctrl-b for bold face, ctrl-p for proportional print, ctrl-s for solid underlining, etc.) and the printer drivers translate these codes to the appropriate escape or control characters for the selected printer. Those of you who have no printer of your own (like me) will particularly appreciate this feature, since no code changes are required to print out your document on whatever printer you can scrounge up. A few examples of the use of embedded printer commands are shown below: Text can be varied between—

Proportional, Elite, Compressed, and W i d e styles. Parts of a line can be ^{super}scripted, or _{sub}scripted, solid underlined, or just underline the words. Note that although the embedded commands take up space on the monitor, they do not affect the line spacing on print-out at all.

The screen display in the Edit mode includes 20 lines of 80-column text from the document, with the remaining four lines dedicated to presentation of the position in the document and space for deferred-execution command entry. The default word wrap is at column 78, but that can be reset to any desired value. A full set of cursor

control commands are available to move the pointer by a character, a word, a line, a screen, or to the beginning/end of the file. Most of these commands are available in both immediate and deferred execution mode, and the deferred mode versions can be modified by a number (to repeat the action that number of times) and/or by a minus sign (to indicate that the action will start at the pointer and proceed towards the beginning of the file instead of towards the end). One of the few negative aspects of Write Away is the manner in which the text is scrolled in the Edit routine. The program tries to keep the pointer at about the middle of the screen, so that the user can see the full context of the passage where any current changes would take place. While this is a nice idea, it is outweighed by the jerky scrolling that results from trying to move forward or backward in the text one line at a time, since the pointer remains fixed and all of the text display is rewritten for each line move.

One of the most powerful features of the package is the ability of the user to define macros made up of any string of normal commands. This can really save some time when making repetitive corrections, such as realigning the columns in a large table. The macro feature is also used to convert the standard operations to global commands. A total of 10 macros can be defined at one time (one in deferred mode and nine using the open-Apple and a numeral). The nine user-definable functions can be saved to disk with a descriptive file name for later use without re-entry. These special functions can be accessed on a II+ by using the paddle controller buttons or by sending to Midwest for a combined shift/control key modification kit (cost \$5).

The text buffer of Write Away is a little over 28 K characters, which will hold about 10 to 20 pages depending on the margins and line spacing. While it would be nice to have the system take advantage of extended memory cards to create larger files, this is not much of a limitation since Write Away has a very efficient system of chaining these smaller files into a large document. The command ".call filename" is used repeatedly in a master file to call up all of the smaller slave files that contain the actual text. This sounded like a system with great potential for problems when I first read about it, but it has worked very smoothly and is virtually transparent to the user. I have successfully printed documents exceeding 50 pages with no trouble at all, but I usually find it more convenient to print out long documents by sections or chapters anyway. Write Away also allocates 4K of memory to use in mark-and-move operations.

Write Away also has some sophisticated form letter preparation features. One of these is

the ability to access data base name and address files written in the DIF format (or from the PFS Series using a free program called "Bridge"). The program also has a variety of conditional operators with which you can vary the content of the form letter based on some user defined characteristics of the name and address. Of course these features are not strictly limited to use with form letters and mailing lists. You could just as easily access a data base file containing a list of all your music and vary the printout depending on whether a particular song was available on record or tape.

The Format routine is used primarily for printing a document. This routine is menu driven and includes a set of user definable default values for the printing parameters (such as the margins, lines per page, etc.). Any embedded format codes will take precedence over these default values. The user also has control over the number of copies printed, the page number on which to begin printing, and whether or not to pause between pages. There is also an option to display the formatted text on the screen exactly as it will appear when printed. The exceptions to the "what you see is what you get" concept are that special printer functions are not possible to duplicate on the text screen (such as underlining, super/subscripting, etc.) and that the screen will show a line wrap to a new line if the right margin is set beyond column 80. The Format routine also includes a print-to-disk option that creates a file of formatted text (without any embedded control characters), which can be quite handy for transferring files between word processors or for creating an executable text file. In summary, the Format routine is quite flexible and powerful, and yet still very easy to use.

The Terminal routine of Write Away supports a variety of modems and interface cards. It can support both auto-dial and auto-answer modes on modems with those capabilities. It has some very sophisticated features for use in the auto-dial mode - such as the creation of a file of responses to a log-on procedure that will wait for the appropriate prompt before issuing the response. There is unlimited memory capacity for such auto-dial data, since each set is saved as a user-created file using the familiar input/editing commands of the word processor. The Terminal routine can operate in one of three basic modes: terminal (chat mode), input (text is saved in the memory buffer), and output (to send text from memory). It can be configured for either full or half duplex operation, and will support unattended operation at off-peak hours if a Thunderclock is available.

The fact that Write Away uses standard DOS 3.3 text files is also an important advantage. This

allows the user to select from many spelling, grammar, and vocabulary checking programs that use standard text files. It also allows you to use the program to write and edit Basic programs and output the result to a text file which can be EXEC'd. I have also used the PRINT TO FILE feature of VISICALC to create text files which Write Away can spruce-up and include directly into a document with much better control over format.

The final advantage of Write Away is that it is not copy protected. You are urged to immediately back-up your copy before proceeding with the tutorial. But the advantages of this open format extend beyond the peace of mind of easy backing-up. The printer drivers are accessible to the user, so that this system can be updated to take advantage of tomorrow's new printers, which will undoubtedly have many features that are unavailable now. The drivers are done in assembly language, so it wouldn't be a cinch to go in and modify them, but the manual does give some tips on their structure to help out in this area. There is also a provision for up to 9 user written routines which can be called from the edit mode.

Although the present version of Write Away is an excellent program, I feel that the following changes would make this an absolute 5-star program. The first change would be to smoothen out the text scrolling in the Edit mode. It would be nice to have Write Away include an option to expand the size of the text buffer on Ile's equipped with an extended 80-column card. It would also be nice to have a version that operates under ProDOS and would thus be compatible with hard disk storage. If Write Away could be configured to use the Videx Ultraterm card in both the Edit and Format displays, that elusive objective of getting a true full page display would almost be a reality.

In summary, Write Away is an excellent word processor. It has enough built-in features to satisfy almost every potential user and enough flexibility to allow any unique requirements to be added. The program is not extremely easy to use, but it can produce first class results if you are willing to invest the effort to learn it. The Terminal routine is adequate, and makes a nice addition to the word processor. At the suggested retail price of \$175, Write Away is competitive with other advanced business word processors, even without considering the bonus terminal program. There are many good word processors available at lower cost if you do not need the full set of features offered by this program. But if you use your word processor professionally and demand high performance and flexibility, then it would be hard to find a better choice than Write Away.

WORD JUGGLER IIe

A Review By Eric Schoch

When it comes to word processing, I've been spoiled at work by a powerful minicomputer-based text editing and printing system with dedicated keys for every editing function you could name and the ability to manipulate text in almost any fashion you could desire.

I knew, of course, that with an Apple IIe I wasn't going to have either a keyboard with the dozens of extra function keys or the power of a minicomputer.

Nevertheless, I wanted to see how close I could come to that kind of system on the Apple IIe, and with Word Juggler IIe, a product of Quark Inc., I think I've come reasonably close.

The program is powerful, easy to learn, makes good use of the Apple IIe keyboard and it gets out of your way: editing and cursor movement don't require you to change modes repeatedly, insert spaces for inserting text, etc.

The main reason that the program is easy to learn, and makes good use of the keyboard, is that it *modifies* the keyboard.

Word Juggler comes with a set of 19 replacement keycaps, designed to match the Apple IIe keycaps, each having a function, such as "Delete Word" or "Print" engraved on the front of the cap.

This is the next best thing to having a set of dedicated keys as on a dedicated word processor -- nearly all editing and printing functions are engraved on a keycap, so virtually no memorizing of control codes is necessary. In addition, the program uses the top row of the keyboard (the numbers row) to set up the document for printing -- justification, margins, page width and length, etc. A template is provided which sits above the top row, again identifying which function goes with which key.

However, the major alteration required by Word Juggler is the replacement of an integrated circuit on the Apple IIe motherboard. This modification is necessary for Word Juggler to function properly. It also enables the open and closed apple and control and shift keys to be used in clever ways. For example, the cursor can be moved left and right by one space, one word, or to the beginning or the end of the line, and up or down by line, page or to the beginning or end, depending on the combination of arrow, shift and control keys used.

I had neither pulled keycaps nor chips before, but neither was difficult. Quark provides the necessary tools and clear instructions. The modification has had no effect on any other software that I have run on the machine.

Word Juggler was one of the first commercial products to use ProDOS and thus takes advantage of the speed of the new operating system. It provides utilities to convert DOS 3.3 (including Visicalc) and Apple Pascal files to Word Juggler files (but not to go in the opposite direction), and access data from PFS:File and Quickfile files for form letters. It will also incorporate standard ProDOS text files. (I have converted DOS 3.3 files, but have not attempted to do so with the PFS or Quickfile files.)

Word Juggler supports underlining and boldface type (if you have an Epson with Graftrax Plus or an FX or compatible printer

you can choose italic instead of boldface), and superscripts and subscripts if your printer can do them. Printer control codes can also be used, but only before or after a paragraph -- thus you cannot insert, say, a double-width word in the middle of a sentence.

It will delete by character (to the left or right) and by word, line, paragraph or block, and performs the standard text move, copy, find and replace (either automatic or with prompting) functions. Blocks of text within a file can be stored to and called from disk.

When you boot Word Juggler, it is in insert mode, in which typing in the middle of a file pushes everything that follows to the right and down. Those who prefer to write in a replace or typeover mode can switch to that easily.

The name of the file being edited, the location of the cursor and the amount of space available -- given in number of screen lines, oddly enough -- are always shown at the bottom of the screen. With a standard 64K machine, files can be the equivalent of 9-10 double-spaced pages. With an extended 80-column card, that jumps up to about 28-double spaced pages.

An unlimited number of files can be easily chained together, however.

The disk access functions (loading, saving and deleting files, cataloging and formatting disks) along with the portion of the program to set printer and default parameters are selected from the only menu.

A help screen showing the various cursor movement options and tab setting procedures (and a line showing the location of the tabs) can be displayed at the user's option.

A feature that I find very nice with Word Juggler that some other word processors don't have is that when a file is saved to disk, the tab settings and printing instructions (margins, justification, etc.) are saved with it. Thus you don't have to set those up each time you want to print all or part of the file.

The program has a display function that enables you to see what the printed form of the document will look like. This is a very important function on a word processor, and I found the implementation on Word Juggler to be much superior to the one on Apple Writer.

The printing commands are fairly complete, ranging from allowing both left, right, fully justified and centered type to the nice touch of being able to prevent a subtitle from being stranded at the bottom of a page, separated from the first line of the text that follows.

Both headers and footers, including page numbers of course, can be used.

The program has a typing mode, which can, depending on your printer, turn the Apple into an electric typewriter. More useful is a function that allows you to transmit individual lines from a file so that, as an example, you can use addresses in letter headings to address individual envelopes.

Also available are variables, which allow the user to insert information that changes into the text at printout time. "If" and "Else" commands allow portions of the text to be printed or omitted depending on conditions defined in the If and Else statements (say, portions of a form letter that may only apply to certain people or groups of people).

Word Juggler includes a form letters utility that uses either small address files that can be created by Word Juggler or else PFS:File or Quickfile files.

Except when using the utilities for form letters or for converting DOS 3.3 files, the program disk is not necessary after it is booted, so you are not penalized for having only one disk drive.

What's missing? There is no "undo" or "yank-back" command and no split screen capability. There is no "change case" function (turn a capital letter into a lower case letter, or vice versa) but there is a slightly less convenient substitute. There is also no easy way to make multiple copies of a particular portion of your text. If you want to copy a particular line 5 or 10 times, you have to go through the copy function 5 or 10 times.

I have not been able to get some of my printer's control codes to work as the manual says I should be able to. However, I have been able to get both double-width and compressed printing using the pitch printout commands (10 pitch produces double width, 15 pitch produces compressed) and so I have not worked on this problem to a great extent.

I did call Quark about this and was told that all those who could help me were on the phone. They took my phone number but never made the promised call back. I've had no other problems with the program, so I don't know if my experience with support was typical or they just had a bad day.

The documentation is good and clearly written. After a chapter on making the physical changes and configuring Word Juggler for your printer, there is a tutorial that takes you through most of the functions of the program, using some example files that are on the program disk. That is followed by a reference chapter, which is not as easy to use as it could be because the table of contents page for the chapter doesn't tell you what pages the various sections of the chapter are on.

On the positive side, there is an index. There is also a chapter on error messages and one titled "Advanced Information," which, among other things, describes the format of Word Juggler files. The manual is in a ring binder.

A backup diskette is supplied with the program. There is a 90-day warranty. If there is a problem after that, there is a \$10 charge if the faulty diskette can be recopied, a \$20 charge if a new diskette must be provided. Although this warranty policy isn't too bad, since you must install a new chip for Word Juggler to work properly, I don't understand why Quark doesn't just let you make your own backup copies.

Quark recently cut the price from \$239 to \$189 and threw its spelling checker, Lexicheck //e, into the package. Since this happened after I bought it (sigh), I don't know much about the spelling checker.

Unfortunately, it's difficult to find Word Juggler at retail dealers, in part because they have to keep a machine configured in order to demonstrate it, and also because Apple dealers tend to push Apple Writer exclusively. That's one reason why I've gone on so long here.

Word Juggler compares well with Apple Writer; each has features the other doesn't, but I think Word Juggler has the edge when it comes to ease of use without sacrificing power.

SOFTWARE REVIEW: Bookends

by Carolyn Parks

SUMMARY

Program: Reference Management System

Publisher: Sensible Software

24011 Seneca

Oak Park, Michigan 48237

Purpose: Information storage and retrieval

Equipment Required: APPLE II w/48K RAM memory & Applesoft in ROM or APPLE II w/64K RAM and one disk drive,
40-column display screenOptional Equipment Supported: Printer (up to 136 columns), 2nd disk drive, or 16K memory expansion card,
lower case adapter chip, shift key modification, upper/lower case keyboard

Suggested Retail Price: \$ 124.95

Rating on a Scale of 1 to 5: 4.5

For a couple of years I've been trying to keep track of articles in computer magazines using my 40-column version of the PFS database software. While the system works, as my files have grown I've come to wish I could use all 80-columns of my //e screen and could somehow speed up retrieval of information. After my review of Bookends I believe that it's a great alternative for indexing a multitude of information - including my index of computer articles.

The Bookends program does have a pre-set format that can't be altered as a database program can, but the pre-set format can be used for many different applications with just a little imagination and is easy to use and flexible in retrieval and output of data. The Bookends program can be used for indexing books, movies, software, research articles, and practically any other non-numeric file you can think of that needs to be cataloged or organized.

The program recognizes the capacity of the APPLE's memory on booting. The manual that comes with Bookends has an excellent tutorial that moves smoothly through the functions of the program. I did have one problem with the tutorial when I began. Looking for a "keyword" in the file that I was instructed to load brought back zero (0) matches when, according to the manual, there should have been four. Since I needed the matches to continue with the tutorial I was stuck. I reloaded the file and tried again with the same result. I set tried rebooting the program (both cold and warm) with the same result. Finally, I set the program aside (it was evening) and called Sensible Software the next day. They assured me that there had been no change in the program since the manual had been printed and asked me to try again. This time the program worked as the manual said it should. Since I had received the package sealed in plastic, had not done anything to alter the information, and have had no similar problems with my computer and other software there is a possibility that something in the program can occasionally cause a problem.

The Bookends' format contains an entry field for author, title, journal, volume, pages, data, publisher, keywords, abstract, and classificatoín. Entry is easy to do with simple tabbing from field to field. There is a maximum of 255 characters in most fields. The abstract field allows 740 characters - plenty for any use I might have for it. You can also input multiple entries in almost all entry fields so, for instance, multiple keywords can be entered.

Bookends retrieval is done through keyword searches just as with other popular database programs. But Bookends is intelligent enough to ask questions if your keyword/phrase seems questionable. For instance, in an index of software with descriptions of what the software does entered in the abstract section, retrieval using the word "keyword" might produce several database packages. To narrow the field "keyword/phrase" could be used for the retrieval question. Bookends will ask if all the records with "keyword" in them and all the records with "phrase" in them are desired or if only those records with both "keyword" and "phrase" are wanted. This type of intelligence makes the program even easier to use and superior to some database programs.

Output can be printed in any format you wish -- list of authors only or any combination of entry fields you wish. This is where using the Bookends program for storage of research material when writing things like term papers or articles would be especially valuable. Using the classification entry field (if you've made consistent entries) you can specify one format for magazines, one for books, and another for encyclopedias -- Tarubian would love it!

You can also save parts of a list to a new file and save files in DOS 3.3 text format for use by a word processor or transmission through a modem. There are also simple utilities that can be used to edit, merge, and append files. When the database becomes too large for your memory you can continue it in a new file and chain the files together. The number of files that can be chained is unlimited so your database size is not limited by machine memory.

Bookends is an excellent program with a variety of potential uses. The reasons for the 4.5 rating were the problem I had on first boot and the inflexibility of entry fields. I would have liked to be able to change the names of the fields a little. Regardless of this, I can still recommend the program highly for its ease of use, quick retrieval of information, and general versatility.

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Using WORDSTAR from a RAM disk drive

Rick Mili

Wordstar is a great program. Although not the most user-friendly word processing program and not the cheapest, once you learn it, it gives you the flexibility to do almost anything. A recent hardware addition, and the opportunity that it presented, illustrated once again to me the versatility of this excellent program.

One of the annoying characteristics of Wordstar is that the whole program cannot fit into memory at the same time. As a result, when it is being run, the computer often has to read the disk to access certain program functions called 'overlays'. While it is doing this, the user cannot do anything else. It does not take very long, but I find it a real nuisance. When I purchased a large memory board with CP/M support for a RAM disk, one of the first applications that sprang to mind was to put Wordstar on the RAM disk so that it would execute the other functions much faster.

It all seemed very simple to me. All that I had to do was to copy the files over to my phantom disk (drive C:) and I would be off to the races. Well everything worked fine until the first time the program went to the disk to read some of the overlay files. It went to drive A: ! What is this? Stupid machine, don't you realize that the program is in drive C: ? That is where I ran the program from, so why are you looking at drive A: for the other overlay files?

Scanning through the Wordstar manual (no mean feat!) I discovered the answer. There is a byte in memory that tells the program where to look for the overlay files, and the default is Drive A:. Aha! That must be the problem. Now to correct it...

For those of you who have not examined the Wordstar manual carefully - you non-masochists - there is a great deal of flexibility built into Wordstar that is accessible via the INSTALL program. Many features are set to default values (such as the particular byte that was causing me anguish), but these can be fairly easily changed. My thanks to Athol H. Cohen for showing me how to make these changes. See his article "Videx: What's New And Other Info" in Vol 2, No 2, pg 34 of the Maple Orchard.

Following the procedure outlined in his article, I booted CP/M and ran the INSTALL program. After specifying the name of the version that I wanted modified and going through the standard setup questions for the hardware, I came to a question that asked:

ARE THE MODIFICATIONS TO WORDSTAR COMPLETE?...ANSWER NO TO THE NEXT QUESTION.

which I did. After some instructions, I received a prompt "LOCATION TO BE CHANGED: ". According to the manual (page E-17 of the Installation Section) the offending byte is called "DEFDSK:". I typed that name and the program responded with the value of 1, which indicated that the default drive for the overlays was drive A:. Changing the default drive is simply accomplished by changing the byte - 2 for drive B:, 3 for C:, and so on. I changed the value to 3 to correspond to drive C: and completed the installation procedures. While there, I also changed the default value of "INITWF+4:" from FF to 0 to turn off hyphen-help. It isn't difficult and if you do mess it up, you can exit the INSTALL procedure without applying the changes to your Wordstar program. After finishing it and running the program, I found to my satisfaction that "It works a treat!".

Encouraged by my success, and feeling very ambitious, I took advantage of another tip from Mr. Cohen and set the disk up with the TURNKEY program so that when the disk was booted (cold boot only) it would automatically run PIP to transfer files to the card and run Wordstar. (See his article in Vol 2, No 3, pg 44 of the Maple Orchard). To my delight, this too works and saves a lot of keystrokes whenever I want to run Wordstar.

Oh yes, by running Wordstar from the card, I no longer notice the delay, when it used to go back to the disk. It is as if the whole program is in memory (which it is).

Although the particular patch that I made is likely of very limited interest, I hope that this experience will encourage others to try customizing it just as Athol's articles inspired me.

HARDWARE REVIEWS

Super Music Synthesizer from Applied Engineering

by Frank Battle

I had seen advertisements for Applied Engineering's Super Music Synthesizer for some months before I became interested in using my computer for music. And it wasn't until I got Music Construction Set, a software package from Electronic Arts, that I realized the little Apple speaker on the machine's underside wasn't good for much more than music as a novelty. I thought a lot about getting the Mockingboard -- the sound board that works with Music Construction Set -- but I ended up getting the Applied Engineering system. Based on what I had read and heard, it seemed that the Super Music Synthesizer, a sound board and software combination, could do a good deal more -- for only a few dollars more.

What does the Applied Engineering board do? According to their advertisements, it does everything ("You name it, this card can do it."). Well, it doesn't quite do everything. It does produce 16 voices (in stereo). It comes with the necessary software to compose songs in sheet music format. It comes with about 30 ready-to-play songs (some pretty good, some not so hot). And the documentation that comes with it is readable and sometimes helpful.

With that basic description of the system out of the way, let's get right to the meat of this review: what are Super Music Synthesizer's flaws? My main complaint is that the music composition software is not quite as friendly as it needs to be. It's not as friendly as Music Construction Set, the Applied Engineering system's main competition.

In the parlance of music synthesizers, a single instrument's line in a music score is called a "voice." The Applied Engineering system requires you to enter one voice at a time, using a somewhat tedious procedure to select and place notes. Music Construction Set, on the other hand, lets you enter multiple voices on one screen, much like a composer might work at his or her piano. Entering one voice at a time can be a hassle.

My second complaint is that some of the ready-to-play songs need a little reworking. For example, the arrangement for "Puff the Magic Dragon" sounds like it's going seventy in a thirty-five mile per hour zone. But I have to admit that I was impressed with the arrangement of the Star Wars theme. Pretty good.

My third complaint is that the hardware isn't compatible with Music Construction Set. Too bad, because I would like to have Applied Engineering's hardware with Electronic Arts' software. But I guess that's about like expecting Apple-DOS and MS-DOS to run on the same machine at the same time.

Overall, I was impressed with the quality of the sound. It's almost as good as the synthesizer parts from the "Clockwork Orange" soundtrack. Sixteen voices allows you to play some pretty complex music scores.

But neither Music Construction Set or Super Music Synthesizer will do what I want (and probably what a lot of other people want) a music synthesizer system to do. I'm talking about simple, straight-forward word processing system for sheet music -- a "note processor." Isn't it a great idea? Sort of like an electronic player piano. Just fill in the notes, signature, rests, and so on -- the way I'm typing this review into Apple Writer right now -- and then execute the score -- the way I'll eventually have to format and print this text. Is that asking too much? Maybe so, because I haven't yet found a system that will do just that.

I hope someone is inspired to write a note processor system. I'll be the first in line to try it.

Super Music Synthesizer runs on the Apple II. It lists for \$159.00, but you can probably find it for less.

Z/80 CARDS & APPLIED ENGINEERING

by André Marc van Meulebrouck

After a nearly one year long search for the ultimate Z80 card, I finally feel satisfied that I have found it. If I were giving out awards, my award would go to Applied Engineering. In this article I will start by explaining why you would want a Z80 card, then, I will describe the motherboard problems some Apple owners may experience when trying to run a Z80 card and how Applied Engineering's end user support can help. Next, I will enumerate the advantages of the Applied Engineering Z80 card, and last, I will explain why having 64K of RAM on a Z80 card is not an asset.

Why CP/M?

First of all, what is a Z80 card? It is a printed circuit board that has a Z80 MPU (micro processing unit) on it. It allows you to run the operating system called CP/M (Control Program/Microcomputers). The advantage of the CP/M operating system is the enormous amounts of software available for it. A lot of it is in the public domain. The CP/M operating system was created by Gary Kildall, starting in 1973. The system was written in PL/M (a high level language), and gives the impression of being modeled after operating systems on mainframes. It was the first real operating system for personal computers. This gave it a momentum of software following that is still impressive today. The reason you would want CP/M is to be able to tap into that huge base of software, and a Z80 card is needed to run CP/M since it is based on the Z80 MPU (originally, however, it was based on the Intel 8080, but the Z80 mnemonic set is a superset of the 8080 set). CP/M is rich in business software, and also quite rich in languages. Although everyone's reasons for wanting CP/M are different, mine were for the languages and public domain software available for it. The highly respected TLC (The Lisp Company) LISP is available in Apple CP/M format. Two public domain LISPs are available; XLISP (written in C), and a LISP written in Pascal. Both are from the SIG/M Users's Group public domain library, and are available in the Denver Apple Pi Users's Group library in Apple format. In addition, Prolog, the language of choice in Japan's 5th Generation Computer Project is available in Apple CP/M format. For an Apple owner, there may be more software available under CP/M than there is under DOS 3.3, or Prodos. Many Apple owners are aware of this, in fact, there is said to be more Apples running CP/M than any other brand of computer in the world (reference 1 in bibliography).

Testing your motherboard, and Applied Engineering's end user support.

One thing to consider if you buy a Z80 card is: can your Apple drive it? In the case of the Applied Engineering card, you don't need to worry about this because Applied Engineering's user support is excellent. However, if you are considering a different brand, you should check out the vendor to find out how reputable they are, and how good their end user support is. This is important because Z80 cards sometimes don't function in some Apples since some Apples have bad chips in them. Apple buys their chips from the lowest bidder, and this creates deviations in chip specifications since some chips may be on the high side, and some may be on the low side, or, the vendor may not be in specification at all! Chips of dubious integrity, when put in combination with other chips, may not work right. This may not affect DOS or Prodos, but may affect a coprocessor board. My computer had bad chips, and I know of another user who actually had to have his entire motherboard replaced to run CP/M. The only way to know if your motherboard is completely okay is to try a Z80 card (from a friend or a computer store) that is known to work, in your computer. If it does not work, some of the chips on your motherboard are weak and/or out of specification and will need to be replaced. I tried three different Z80 cards in my Apple; an imitation Microsoft Softcard, an ALS card with 64K of RAM on it, and, finally, an Applied Engineering card. None of them worked, so I finally became suspicious of my computer. After trying the Applied Engineering card in another computer, I knew my computer had problems. I phoned Applied Engineering and told them my Z80 card did not work. They told me: "No problem, we'll send you another one." I told them my computer was at fault, and the technician there told me to send my computer in and they would fix it for free, including paying for the return UPS shipment. All the users of Applied Engineering products I talked to, both before I bought my Z80 card, and after I had trouble, had nothing but praise for Applied Engineering, and they all said they would not hesitate to send their computer to them. So, I shipped off my computer. It was received on a Friday, and the technician I talked with fixed it on Saturday! On Monday, after a weekend of testing, my computer was shipped back to me! This kind of user support is rare, and is a refreshing change from the "end user drop dead" attitudes I have gotten from Digital Research and a few other companies.

Why the Applied Engineering Card?

The Applied Engineering card will run in Apple II's, II+'s, //e's, and Franklins. It will work with all popular 80 column cards automatically. I have never heard of anyone having trouble with any make of 80 column cards with this card. Parallel and serial interfaces can be installed using the CONFIGIO basic

program which is a utility that comes with Microsoft's Softcards. The Applied Engineering card lists for a mere \$139, and it will run the latest version of CP/M (CP/M 3). It also runs versions of CP/M earlier than 2.0, and all the versions between 2.0 and the latest versions. This card will run CP/M software downloaded from 8 inch disks (8 inch format is the CP/M standard), and, it will run Microsoft Softcard CP/M formats. This card runs at 4 MHz, does Z80 interrupts, and supports graphics in GBASIC. The graphics in GBASIC are very similar to the graphics in Applesoft. Applesoft programs need little translation to run in GBASIC, and hi-res graphics are supported by GBASIC. The Applied Engineering card is rather small in size because it has such a small number of chips on it. This means less power is required, less heat is created, and, there are less chips that can potentially fail. If you look at the card you will see it is very well made. All chips are in housings (sockets). This card will run a variety of CP/M operating systems that come with various software packages. In addition, Applied Engineering is developing an operating system that will be available to all future and past owners of their card. It will be called "CP/AM", standing for "Control Program/Apple Microcomputers".

Why 64K of RAM onboard is a bad idea.

The CP/M cards which have their own memory (64K of RAM) do not run the Microsoft Softcard CP/M format because they do not access the Apple's I/O memory the way the Softcard does. This is a severe disadvantage because the point of CP/M for most Apple owners is to try to be compatible with the largest base of software possible, so the cards with 64K on them defeat the purpose and advantage of having CP/M! The Applied Engineering card is the most compatible of them all, running more formats and software than any of the other cards. The Microsoft Softcard set a defacto standard for Apple CP/M formats, despite its being non-standard. So, if you get CP/M, and can't run the Microsoft Softcard format, you have cut out a huge base of Apple CP/M programs. In fact many times when software is advertised as being available in Apple CP/M format, what is meant is that it is in Microsoft Softcard format. Thus, you want to get a card that will run Microsoft Softcard format as well as standard CP/M formats like you get when you download an 8 inch disk into Apple 5 1/4 inch format. The Applied Engineering card is the only one I know of that can accept both formats well, in addition to running CP/M 3, the latest version of CP/M.

Microsoft SoftCard //e--like all the other cards that have 64K of memory on them, this card will not

run the Microsoft Softcard format. In addition, this card will not run CP/M 3. This card has its own video equipment. Why pay for video equipment if you already have a video card? You can't use your own video card with this card which is too bad if you like your video card better than the video equipment on this card. This card is huge and requires more power and creates more heat than the Applied Engineering card, and, because it has so many chips on it, your chances of developing a bad chip is greater. A very unpalatable quirk of this card is the fact that it must go in the auxiliary slot. If you have a card in slot 3 that will coexist with an Apple extended 80 column card in the auxiliary slot, you may not want a Z80 card that requires that slot. It is likely to cause problems with such a set-up. This card is EXPENSIVE, and it will run on //e's only.

PCPI APPLI-CARD--this is the card Franklin sells as their CP/M card, and this card, under the name "StarCard", is often bundled with Wordstar. It has 64K of memory on it, so it too will not run the Microsoft Softcard format. It will not run CP/M 3 either. It is more expensive than the Applied Engineering card also.

Digital Research Gold Card--this card is ludicrously overpriced. The marketing strategy for this card seems to be a belief that people will pay absurd prices for anything that bears the Digital Research label. With this card, you will be more or less restricted to what can be downloaded from 8 inch standard CP/M formats. This card, like the softcard //e, has its own video equipment and will not let you use your own video card's display (if you have one). It is rather large, with alot of chips on it, meaning more heat, more power needed, and more chances of card failure due to bad chips. When I called Digital Research to find out about this card, they told me there is no support for Apple end users (and will not be in the future). They also said there was no technical support line. Digital Research will not answer any questions about the Gold Card unless you are a dealer. Despite the fact I work at a computer store on Saturdays, I was still not allowed to even know what the dealer support phone number is. I was told to see the dealer nearest me. The one and only dealer for this card in Colorado turned out to be the store I work at on Saturdays. I explained to Digital Research that I worked there, and that no one there knew about their card, nor had even seen one, and that I was trying to find out about them. I was told they would mail me literature, but they never did. I also wrote for information as per the instructor in a magazine, but recieved nothing that way either. I sent for both nearly 3 months ago. When I had one of the

store owners call for me, the answer to my question about graphics was: the Gold Card supports no graphics. I'm not sure the representatives of Digital Research that I talked with knew what they were talking about, so I don't know if any of this information is correct, however, I will probably never buy any Digital Research products.

Advanced Logic Systems "The CP/M Card"—Digital Research had a big hand in the development of this card. Like most cards with 64K, it won't run the Microsoft Softcard format. It does not officially support any video or parallel/serial cards other than the ones made by ALS. Others may work, but you must find out for yourself. The price is much higher than the Applied Engineering card.

All the above cards have 64K of RAM on them. After what I've said so far, you may be thinking that the softcard is not so bad after all. Don't let me leave you with that impression.

Microsoft Softcard—this card does not run CP/M 3.0, and it is more expensive than the Applied Engineering card.

Conclusion

The choice is yours, but in my opinion the winner is clearly the Applied Engineering card. I think it is the best Z80 card there is for the Apple II series.

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4. Charlie Allen: Comparing CP/M cards; A+, volume 2, issue 3, March 1984, Ziff-Davis Publishing, Co., New York, NY.

TRADEMARKS

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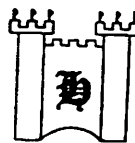
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PURCHASE OF HOME COMPUTER MAY BRING TAX SAVINGS

In the last several years, the sales of home computers have proliferated and by all indications, in the next decade a large number of Americans will own home computers for either personal or business reasons or a combination of both.

One of the most frequently asked questions that we receive about home computers is whether the cost of the computer is tax deductible. To be deductible, the expense must be ordinary in your trade or business and necessary for its operation. Therefore, if the above requirements are met, the purchase price of a computer may be deductible.

However, since the computer has a useful life of more than one year, unless you claim a section 179 expense deduction which is explained later, you cannot deduct its cost as an expense when you figure your business income for tax purposes. Instead, you must spread the cost over more than one year and deduct it a portion at a time. This is called depreciation.

A simple method of computing depreciation is the accelerated cost recovery system (ACRS). ACRS allows you to recover the basis of the property you use in a trade or business, or hold for the production of income, over a recovery period of 3, 5, 10, or 15 years, depending on the type of property. The recovery period for home computers is 5 years. The recovery percentages assigned to each year are prescribed in tables. The percentages for 5 year property are as follows:

Recovery Period

1st year

2nd year

3rd - 5th year

The deduction under ACRS is figured by multiplying your basis in the property by the applicable percentage.

For example, if you purchased a home computer costing \$6000 and it's to be used 100% for business, your deduction would be computed as follows:

	Basis		Appl. Pct.	
1 Year	\$6000	x	15%	=
2 Years	\$6000	x	22%	=
3 Years	\$6000	x	21%	=
4 Years	\$6000	x	21%	=
5 Years	\$6000	x	21%	=

If your computer is only partly used for business you must allocate the depreciation deduction by percentage of business use.

Example - Computer used 60% for business and 40% personal (figures from illustration above.)

Amount of Computer
Used for Business
(50% of \$6,000)

1 Year	\$3,600	x
2 Years	\$3,600	x
3 Years	\$3,600	x
4 Years	\$3,600	x
5 Years	\$3,600	x

Under no circumstances can you claim a deduction or credit a personal use of the computer. You should use Form 4562 to determine your depreciation deduction.

In addition to depreciation you may also be entitled to an investment tax credit of 10% of the purchase price of the computer.

Example:

Purchase	Investment Price	Credit Rate
\$6,000	x 10%	=

The \$600 tax credit is subtracted from your tax liability. However, the investment tax credit also has to be adjusted for personal use of the computer.

Based on the above illustration of 50% business use you would be entitled to a \$300 tax credit computed as follows:

Basis of Computer Attribute to Business Use (50% of \$6,000)

\$3,000

As mentioned earlier, instead of claiming an ACRS deduction for part of the cost and an investment credit, you may elect to deduct all of the computer's costs, up to a limit of \$7,500, in the year you place it into service. This election is known as a section 179 expense deduction and is also claimed on Form 4562. As with the depreciation deduction, only that portion of the computer's basis attributable to business use may be deducted. Any portion of the basis that is in excess of the section 179 deduction can then be claimed using the previously described ACRS computation. The investment credit can also be computed on this excess basis.

For more information about depreciation, investment tax credits, and the section 179 deduction, you may write to the IRS for free Publication 534, "Depreciation," and Publication 572, "Investment Tax Credit".

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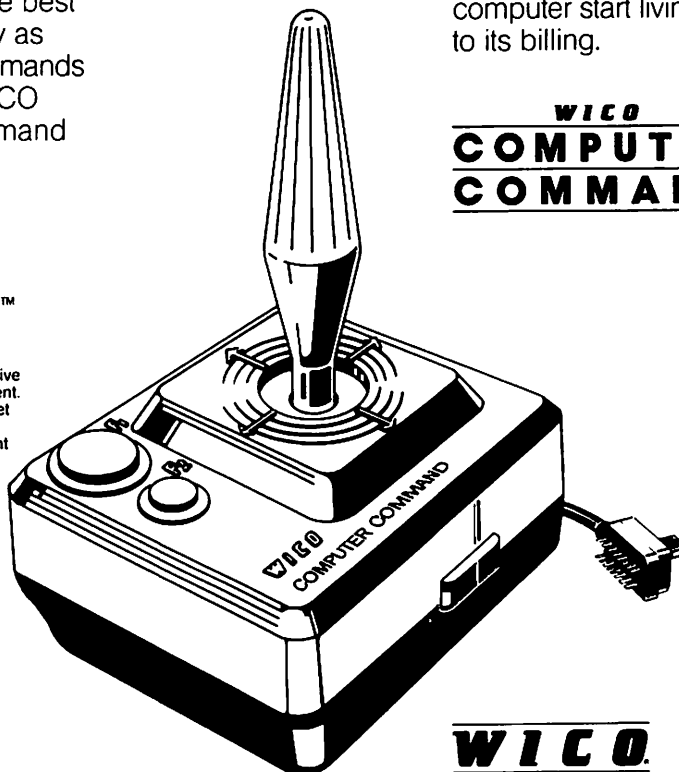
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Interesting Bits

by Chris Tufts

Closing The Gap, an authority on microcomputer applications for special needs populations, has announced the publication of "Computer Technology for the Handicapped," the selected proceedings from the Closing The Gap Conference held September 13-16 1984 in Minneapolis, MN. The book is a treasury of state-of-the-art microcomputer applications written for special education and rehabilitation professionals as well as handicapped individuals, their families and associates. The 260 page book focuses on how computer technology can help the handicapped or disabled person today. Topics include microcomputer applications in all disability areas—hearing and speech impaired, blind and vision impaired, physically and mentally handicapped—as well as contact information on all presenters and a listing of nearly 60 hardware and software producers who exhibited at the conference. "Computer Technology for the Handicapped" retails for \$17.95. For more information on this book or the many other computer-related services Closing The Gap provides to special education and rehabilitation professionals and handicapped persons, contact: Budd Hagen, Closing The Gap, P.O. Box 68, Henderson, MN 56044 or phone (612) 248-3294.

Superex Business Software is now shipping MacFinance, a new software program for the Macintosh designed to calculate finances without the need to set up time-consuming spreadsheets. Priced at \$99.95, MacFinance answers up to 26 different financial questions, from corporate worth to future value of investment. Users plug in the appropriate figures in the dialog window which prompts them to enter financial data. Sophisticated financial formulas are programmed into MacFinance to quickly arrive at important facts about a company or investment, such as Market Ratios, Depreciation, Breakeven Analysis and more. The program takes advantage of the special features of the Macintosh, including pull-down menus, screen prompts and windows. MacFinance includes three menus from which to choose—Balance Sheet, Investments and Capital and Loans. For more information, contact Superex Business Software, 151 Ludlow St., Yonkers, NY 10705; (800) 862-8800.

Quiet Print Inc., America's largest producer of acoustical products to silence noisy computer printers, has announced a new line of low priced models to silence Okidata, Epson, and other personal computer printers. These new products are added to the existing models for letter quality and data printers. Call 800-221-7933 or write Quiet Print Inc., P.O. Box 11067, Santa Rosa, CA 95406.

Portable Software has announced the release of a version of its PortaAPL software package for the Macintosh. PortaAPL is a full-featured interpreter for the standard APL programming language. It contains all of the primitive APL functions, system functions, and system commands as given in the IBM/APL standard, with the exception of shared variables. PortaAPL contains a number of important extensions to the standard APL language such as an easy-to-use full-screen editor and an ASCII character set option. System functions are available for accessing many of the Macintosh toolbox ROM routines such as Quickdraw graphics, communications, and sound generation. PortaAPL for the Macintosh is upward compatible with the IBM PC version of PortaAPL. APL programs written for the IBM PC can easily be moved to the Macintosh with little or no changes. PortaAPL requires a 512K Macintosh with a single disk drive. It is available directly from Portable Software, as well as from its dealers. The Macintosh version of PortaAPL is priced at \$275. It includes a program diskette, sample APL programs, a manual, and reference card. For more information, contact Portable Software, 60 Aberdeen Ave., Cambridge, MA 02138. (617) 547-2918.

A recent national poll of the data hiring picture indicates that the first half of 1985 projections show the employment picture, compared to last quarter, looks bright. The poll was conducted by CompuSearch, the data processing division of Management Recruiters International, Inc., the country's largest search firm. Of 438 companies interviewed, 35.8% indicated that they would increase their staffs and 57.3% planned to maintain current staff sizes. Only 6.6% stated they would decrease current staff size. According to CompuSearch, when these results are compared to fourth quarter projections the compiled analysis illustrates a positive hiring picture. The survey also covered which

geographic regions show better-than-average growth potential, which industries plan significant staff increases and whether the respondents felt that an economic slowdown would occur in the next two years. A complete summary of the findings is available, free of charge from: Management Recruiters International, Inc., 1015 Euclid Ave., Cleveland, OH 44115. Attention: Nancy Valent.

Electronic Courseware Systems, Inc., has published a series of new music programs for the Apple II+ and IIe computers entitled Music Flash Cards. Program lesson diskettes include nine lessons, names of notes, rhythm values, rhythm value equivalents, major scales, minor scales, modal scales, key signatures, intervals, and basic chords. A drill and practice format is used in presenting this music material. At the end of each lesson the student's score is displayed. The cost of this lesson series for the Apple II+, or IIe (48K, one disk drive) is \$59.95. Lesson diskettes may be bought individually at a cost of \$29.95 each (three diskettes per set).

Educational discounts are available to schools for multi-copy purchases. For additional information or for a complete software catalog, write to Electronic Courseware Systems, Inc., 309 Windsor Rd., Champaign, IL 61820 or call (217) 359-7099.

Scott, Foresman and Company has published "Creating The Perfect Database Using DB Master" by Trish McClelland. The book shows how to design a database, leads the reader through every step of the process, explains basic database concepts and points out common mistakes and pitfalls. The book features special instructions for using DB Master on the IBM PC and Apple Computer, explains techniques for performing routine file maintenance, illustrates the entire process with a sample database, and other database tips.

FEDERAL and ILLINOIS STATE TAXES

1984

APPLE II, II+IIe

Price \$35.00

Following are the tax forms and schedules that this program will calculate:

Federal forms 1040; 1040A; 1040EZ; 1040SE; F2210 (including tax penalty exceptions 1,2,3,4); F4972; Schedules A,B,C,D, Rental portion of Schedule E; schedules G, and W. In addition, the program will calculate the Office in Home Worksheet, Taxable income from Unemployment Compensation, Taxable income from Social Security Benefits, Earned Income Tax Credit, Illinois State Taxes (1040IL), and Illinois F2210 (including tax penalty exceptions 1,2,3,4)

The program is for tax preparers or for the average Apple owner who wishes to use his or her computer to assist in the development of Federal and Illinois State taxes. States taxes other than Illinois are not included in the program. Several of the tax forms are available as printed hard copy. However, the copies are not intended for actual release to the IRS. The program requires 48K DOS 3.3 with either 1 or 2 disk drives. Full refund if not satisfied with program.

Phone 358-8246

CRAE and APA Co-residency

Harry Owen Jones

The program CRAE/APA is a loading program which will permit both CRAE, the Coresident Applesoft Editor from Highlands Computer Services, and the Applesoft Programmers Assistant (APA) from Apple Computer to be used at the same time. Thus the features of both of these editor programs can be accessed.

The editors are available by means of the same Ampersand '&' vector. APA is the 'master' program. Thus CRAE is called with the '&CRAE' command. Note that '&CRA' and '&CR' will also access CRAE but '&C' will not work as it will interfere with APA's Compress function.

The conjoining of these two programs is made possible by changing the RENUMBER command of APA and replacing it with the '&CRAE' command.

To accomplish this task it is necessary to make two changes to the APA program. First, the 'Renumber' command must be removed and replaced with the '&CRAE' command. Second, it is necessary to reset the '&' Ampersand vectors of the 'Renumber' command to point to CRAE rather than the Renumber command. Both of these alterations can be seen in the listing of the CRAE/APA program.

The combination of these programs does not result in loss of the Renumber function for it is still present in the CRAE program.

The principle of reading the '&' vector to obtain a pointer to a program has application elsewhere. Other routines may be patched into APA by sacrificing one of the APA commands.

Therefore, to use both of these programs at the same time it is first necessary to load in CRAE using its 'LOAD.EDIT' routine, and then load in the APA program using the RBOOT facility on the DOS TOOLKIT. This is because

CRAE is fixed in its memory location while APA is relocated to the available memory below CRAE. Of course it would be easy to append this CRAE/APA program to LOAD.EDIT by appropriate renumbering and merging and make it possible to boot up both programs with a single loading program. Alternatively, this program listing could be modified to run without prompting as a 'HELLO' program, provided that the necessary LOAD.EDIT, APA and RBOOT files were on the boot disk.

The locations within the APA program are listed for the convenience of the users. (They are as accurate as I could best decode them.) The user is warned to avoid using the 'AUTO' and 'LENGTH' routines as these have strange setups and are not readily changed.

ROUTINE NAME	RELATIVE LOCATION		
	NAME	VECTOR	ROUTINE
RENUMBER	190	301	1521
HOLD	199	299	1024
MERGE	204	297	1125
LENGTH	210	295	472
COMPRESS	213	293	741
SHOW	222	291	504
NOSHOW	227	289	517
AUTO	234	287	544
MANUAL	238	285	599
XREF	245	283	2359
KEYS	259	281	472

All relative locations are from the start of APA and are given in decimal form suitable for use from Applesoft. All locations are believed to be accurate but users are advised to check before using them.

]LIST

```
10 TEXT : HOME :T$ = "HELLO PROG
   RAM TO LOAD": HTAB 21 - LEN
   (T$) / 2: PRINT T$:
```


DISCOUNT DEALERS

```

20 T$ = "CRAE : CO-RESIDENT APPLE
   SOFT EDITOR": HTAB 21 - LEN
   (T$) / 2: PRINT T$: HTAB 19:
   PRINT "AND"
30 T$ = "APA : APPLESOFT PROGRAMM
   ERS ASSISTANT": HTAB 21 - LEN
   (T$) / 2: PRINT T$
40 VTAB 6: PRINT "INSERT A DISK
   CONTAINING THE 'CRAE' FILE";
   : PRINT : HTAB 15: INVERSE :
   PRINT "EDIT.PROD": NORMAL
50 PRINT : HTAB 5: PRINT "IN THE
   DRIVE AND HIT A KEY ";: GET
   A$: PRINT
60 PRINT : HTAB 9: PRINT "LOADIN
   G CRAE 2.0"
70 PRINT CHR$(4);"BLOAD EDIT.P
   ROD": PRINT
80 PRINT "INSERT DISK WITH 'RBOO
   T' AND 'APA' AND"
90 HTAB 7: PRINT "HIT ";: INVERSE
   : PRINT "SPACE BAR";: NORMAL
   : PRINT " TO CONTINUE ";: GET
   A$: PRINT
100 POKE 1013,76: POKE 1014,00: POKE
   1015,141: POKE 111,240: POKE
   115,240: POKE 112,121: POKE
   116,121
110 PRINT : PRINT "LOADING APPLE
   SOFT PROGRAMMERS ASSISTANT"
120 ADRS = 0: PRINT CHR$(4);"BL
   OAD RBOOT": CALL 520
130 ADRS = USR (0);"APA": FOR I =
   0 TO 2:P(I) = PEEK (1013 +
   I): NEXT : IF P(1) = 0 THEN
   P(2) = P(2) - 1:P(1) = 256
140 POKE ADRS + 301,P(1) - 1: POKE
   ADRS + 302,P(2)
150 DATA 67,82,65,69,32,32,32,32
   : FOR I = 0 TO 7: READ A: POKE
   ADRS + I + 190,A: NEXT : POKE
   ADRS + 190 + I,0: CALL ADRS:
   END

```

The following stores have offered discounts to NIAUG members. You "must" show your NIAUG membership card to get the discount.

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Greetings of the Season

GETTING TEXT OFF THE DISK

by Wayne Mitchell
NIAUG Member

I kept saying that I wouldn't buy a modem until the price got down to \$100.00. Well it happened. The mail brought the offer for a Networker at \$99.00, the best price of anything that I had seen to date. It came and I carefully installed it and gingerly called up the Club's Bulletin Board. It worked fine and the accompanying software saved a copy of the screen display to a disk file. Then came the realization that there was no information, no program, no means to get the data off the disk and hopefully onto the printer.

What to do? Betting that it was a sequential text file, the file was opened for reading and the INPUT statement in a loop read the data almost acceptably. But what are these occasional EXTRA IGNORED advices doing among the output? It must be commas or other characters designated as delimiters dividing up the text before the carriage return signals the end of a line.

Now what to do? First check the PEEK's and POKE's. Nothing there seems to help. But here in a clipping from Apple Orchard for July-August 1982 (p. 44) there is a solution. David Lingwood apparently had a similar problem and solved it with "Replacing INPUT with the '&'". It works! Here is the code as I used it:

```

1  REM * * * AMPERSAND INPUT * * *
2  REM FROM D. A. LINGWOOD
3  REM APPLE ORCHARD--JULY-AUGUST 1982
5  REM LAST REVISION WITH 1984-11-06
10 HOME : VTAB 12:
20 INPUT "NAME OF FILE TO PRINT ";F$
30 GOSUB 1000: REM SET UP MACHINE CODE
40 D$ = CHR$(13) + CHR$(4)
50 GOSUB 500: REM TURN ON PRINTER
60 PRINT D$;"OPEN ";F$
70 PRINT D$;"READ ";F$
80 ON ERR GOTO 200
90 POKE 1013,76: POKE 1014,0
100 POKE 1015,3
110 A$ = ""
120 & A$

```

```

130 PRINT A$: GOTO 120
200 REM EOF & OTHER ERRORS
210 IF PEEK (222) < > 5 THEN
    PRINT "ERROR # "; PEEK (222)

```

```

220 IF PEEK (222) = 5 THEN
    PRINT "END OF FILE ";F$
230 PRINT D$;"CLOSE"
230 GOSUB 550
240 END
250 REM:
500 REM PRINTER ON
510 PRINT D$;"PR#1"
520 REM PUT REQ'D PTR CONTROLS HERE
530 RETURN
549 REM
550 REM PRINTER OFF
560 PRINT D$;"PR#0"
570 RETURN
599 REM
1000 REM MACHINE LANG. POKES
1010 FOR I = 768 TO 794: READ J
1020 POKE I,J: NEXT: RETURN
1030 DATA 32,227,223,162,0,32,117
1040 DATA 253,160,0,138,145,131,200
1050 DATA 169,0,145,131,200,169,2
1060 DATA 145,131,32,57,213,96
1999 REM
2000 REM THIS SIMPLE PROGRAM
2010 REM WILL PRINT TEXT FILES
2020 REM AT ABOUT 1400 BAUD.

```

The Apple Orchard article has more information about the Assembly Language program and how the program works. It has solved my immediate problem and maybe it will help someone else.

DAYLIGHT TIME AND YOUR CLOCK

By Wayne Mitchell
NIAUG Member

I was surprised last April when daylight savings time went into effect and the time display based on my slot 5 internal clock board was still correct. The display had been corrected to read daylight savings time. Now I knew that the clock board probably didn't do that all by itself. My memory is not all that precise as I get older so I looked up the coding in my time display program and sure enough, I had incorporated a daylight savings time correction into the display program. This is how I did it:

To use the coding below you must have the following values:

MO% is the number of the month

DA% is the day of the month

DA% is the day of the week (Sunday = 0
Saturday = 6)

HR% is the hour of the day

All but the day of the week are normally available from the clock board. The day of the week calculation is described in The Harvest, October 1984, page 44. The BASIC program to calculate the correction is then very simple:

```
260 IF MO% > 4 AND MO% < 10 THEN
    HR% = HR% + 1
270 IF MO% = 4 AND DA% - DW% > = 24
    THEN HR% = HR% + 1
280 IF MO% = 10 AND DA% - DW% < 25
    THEN HR% = HR% + 1
```

This seems to work correctly and should be satisfactory and as long as the congress doesn't fiddle with our daylight savings schedule. When they do we will just have to figure out some new code.

PASCAL SIG

There will be a start-up meeting Jan 31, 7:15 pm at Miner Jr High. 1101 E Miner St. Arlington Hts, Room 1. Call Con at 593-1122 for additional information.

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HELP WANTED

I am looking for a programmer who can convert integer BASIC programs into machine language or Applesoft BASIC. I am also looking for a person who can convert Applesoft BASIC programs for the Apple II series computers to run on the IBM PC (IBM PC BASIC). I will pay cash for a professional job. Call Skip Neiburger at (312)-223-5077 after 9 PM.



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Sincerely,

Anatomy of an Apple II Pascal Code File

by Brother Tom Sawyer, CSC

My dream is to write an Apple Pascal decompiler (unpiler?). I have always been curious about the programs that come in coded form only. Sometimes I would like to modify them but most of the time I would just like to see how the pros write their programs. My dream is half way to being fulfilled and if you've already written such a program let me remain ignorant of it because working toward my goal is teaching me a lot about Pascal and particularly how the Apple version works.

About CODE FILES - Text, in general, is whatever is typed into the Editor (a program). The text file in this case is something that is in Pascal. This human readable form of a program must be changed into machine readable form because the machine is more limited than we humans are. The compiler is the program that performs this task. In Apple Pascal it produces a version of the program in a language called p-code. In other systems the compiler produces actual machine code. P-code is intended to be a universal language, like Pascal itself, which can be run on many different machines. Apple Pascal has an interpreter which translates p-code into machine instructions and then executes them. Thus, even though it is compiled, the code must still go through another step (interpreting) before it can do anything.

Pascal code files may also contain machine language procedures which are produced by the Assembler (another program) and tied into the Pascal program as it is being compiled. They may also be linked (by the Linker, of course) with p-code later on. When p-code and assembly code are mixed in the same code file the system puts in markers so it "knows" whether the instructions are to be interpreted or executed directly.

About SEGMENTS - most large programs are broken into sections or segments. As programs grow in size it becomes necessary to collect a number of procedures (functions) and treat them as a single procedure (function) called a segment. The advantage of doing so is that this block of code will be loaded into memory only when it is called by the main program. This makes more memory available for the program's use. Since the segment doesn't reside in memory unless in use (you can make it stay if you want it to) it should be a mini-program. That is, be able to do everything it is supposed to and then get out of the way. Declaring the title page, initializing procedures and optional instructions as a segment procedure is a good example of segmenting. Why clutter the memory with a few K of "one-shot" procedures? Pascal also has UNITS which have the same purpose but these should be routines which have wide application. Segments are usually program specific and do not have to be installed in a Library or linked into a program.

Now for my "dream" program.

The main algorithm for my decompiler is as follows:

```
PROGRAM Unpile;
BEGIN (*a good way to start*)
  Get segment info from codefile block zero;
  (* one block = 512 bytes of code *)
  Locate each procedure in the codefile;
  IF p-code THEN
    decode into human readable form
  ELSE
    BEGIN
      transfer code to disk;
      Get out of Pascal (*into BASIC*)
      load code into BASIC Monitor
    END
  END.
END.
```

The first step in the program is to analyze block zero. This is the first block of a Pascal code file and is really a segment dictionary. Its structure is described in the Pascal OPSYS Manual (p266ff). The dictionary contains the name, location, size and type of each segment in the program. For example, the Pascal Compiler contains 15 segments. The Editor has 7 segments and the Filer is made up of a single segment (13.3K in length!). For my purposes, the location and size are the important numbers. The location is always a single number since a segment must begin with the first byte of a block. The sum of start and size locates the segment's last byte, which may be anywhere within a block. It would seem that knowing the first byte is enough but actually the last byte is more important. This "last shall be first" idea is central to the way Pascal code is executed.

About STACKS - These are data structures on which data is piled as it enters so that the last piece in is the first out (there are no rear or side doors). LIFO (last in, first out) is a member in good standing of the programmer's alphabet soup diet. Although we conceive of stacks as having a top and a bottom, they are really stored "upside down" in the memory. The top of the stack is at the lowest address in the memory. Since a codefile (program) is loaded into the memory from the top down, the last byte in is at the "top of the stack." I didn't design this method of the bottom is the top so suggest you mentally turn the codefile upside down to see that the last byte is where it all begins.

Backing up to the beginning - The second step in the program is to locate the procedures in each segment. So far, the program has read the segment dictionary and found the starting address and the length of each segment. Add the two and you have the location of the last (first) byte in the segment's code. That byte tells the number of procedures in the segment. The byte just before it is the segment number. This is preceded by a pair of bytes for each procedure in the segment. These are the offsets and tell you where each procedure ends (remember, the end is what counts). If you count backward to the end of a procedure, the byte you arrive at is the program level and the one preceding it is the procedure number. This is true of p-code but not machine code. The latter contains zeros in these locations. This is the "marker" the system uses to tell the difference between the two kinds of code. The next two bytes in either code give the offset to the beginning of the procedure. Once we're there the procedure can be executed, this time from the "top" down. There are

cases of forward offsets (in System Pascal) but generally one counts from the bottom up.

About numbers - When you compile a Pascal program the main program is segment #1. All of us who have gotten runtime error messages (remember the one time it happened to you?) have seen ERROR S# 1 P# 2 I# 242 or something like that. System errors show S#0 or S#20 (Turtlegraphics) or a number of others. The S stands for the segment in which the error occurred. The P stands for the procedure number. In your program (segment #1) the main program is procedure #1. The first PROCEDURE (or FUNCTION) is #2 and so on. Thus, in the codefile, the main program is considered procedure #1 of segment #1. So far, so good?

About levels - A third number that is associated with every procedure is its program level. The system needs a way to tell where it is with reference to the main program. The convention is to consider the main program as level 0. Each procedure within that program is at level 1 and procedures within a procedure level 2 and so on. The numbers are equivalent to the nesting level of a given procedure. They are analogous to the lexical levels you see when you get a compiled listing of your program. If you haven't done it, just type (*\$L CONSOLE:*) somewhere in your text file and then compile it. That will produce segment #, procedure #, lexical level, and byte number of each line in the program. Figure #1 gives a schematic of a program with its levels.

Notice that procedures are numbered as they are DECLARED, not when they begin. This fact makes it easier to locate runtime errors and helps one arrange procedures in a logical order. I can say this with only some evidence (and welcome any corrections) but the more active a procedure is going to be in the program the closer to the top (lower proc#) it should be. Little used, or "one shot", procedures like initialize and sayhello should be put toward the bottom of the segment. Of course, the rule of declaring before calling must be observed and note that if you declare a procedure FORWARD it is numbered as it is declared rather than when it actually appears in the program.

Procedures may be nested more than one deep. The deepest I have seen so far is in System Compiler which has a procedure at level 6 (level 6!). Knowing about levels can also keep one from making calls outside (Level 4 calling Level 1, come in Level 1). It also helps one to keep variables within their domain and can cut down on unwanted side effects. Machine code procedures do not have levels. They seem to be free agents.

This has gone on longer than I had expected so I will leave you with the skeleton of the program I wrote to analyze a codefile (the first two steps in my algorithm). The next time I'll give you the listing along with some more explanation. This may seem rather esoteric but a very useful spin-off of this program is using it as an aid to writing "tighter" code. The code of the program whose skeleton is listed (Figure #2), originally had one segment, 14 procedures and was 6444 bytes long. By using it to analyze itself (aren't computers marvelous?) it now has three segments, 14 procedures (still) and is only 5256 bytes long. It is not only 20% smaller, occupies a maximum of 3592 bytes of memory (segmenting) but it runs about 10% faster. Sound interesting?

Figure #1:

	Segment#	Procedure#	Program Level
PROGRAM Levels;	1	1	0
PROCEDURE A;	1	2	1
FUNCTION B;	1	3	2
BEGIN			
END; (*B*)			
PROCEDURE C;	1	4	2
BEGIN			
END; (*C*)			
BEGIN (*A*)			
END;			
BEGIN (*MAIN*)			
A			
END.			

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SEG#	PROC#	PROG. LEVEL	FIGURE #2: Skeleton of Codemap
1	1	0	<pre> (* params = parameters *) PROGRAM Codemap; (* skeleton *) (* Anatomy of a Pascal Codefile bts 7/17/84 *) </pre>
7	1	1	<pre> SEGMENT PROCEDURE Blockzero(params); (* produces segment dictionary of codefile *) </pre>
7	2	2	<pre> PROCEDURE Center (param); BEGIN </pre>
7	3	2	<pre> END; PROCEDURE Checkprint (param); BEGIN </pre>
7	4	2	<pre> END; PROCEDURE Initloc; BEGIN </pre>
7	5	2	<pre> END; PROCEDURE Initseg; BEGIN </pre>
7	6	2	<pre> END; PROCEDURE Ptoutdict; BEGIN </pre>
			<pre> END; BEGIN (*Blockzero*) END; (*Blockzero*) </pre>
8	1	1	<pre> SEGMENT PROCEDURE Analize (params); (*Calc. and output proc offsets, location, len*) </pre>
8	2	2	<pre> PROCEDURE Putoutpb (params); BEGIN </pre>
8	3	2	<pre> END; PROCEDURE Starfix (params); BEGIN </pre>
8	4	2	<pre> END; PROCEDURE Fix (params); BEGIN </pre>
8	5	2	<pre> END; PROCEDURE Putoutpa (params); BEGIN </pre>
8	6	2	<pre> END; PROCEDURE Fixnout (params); (*Driver proc. for putout/Fix procedures *) </pre>
8	7	2	<pre> BEGIN END; PROCEDURE Getoffs (params); BEGIN </pre>
			<pre> END; BEGIN (*Analize*) END; (*Analize*) BEGIN (*Main Program*) Blockzero(params); Analize(params) (*future segments*) END. </pre>

MAC NEWS

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MAC SOFTWARE

(mail orders)

-----Ads from Macworld - Nov. Issue-----

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MS Multiplan	129.00	125.00	139.88
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Macintosh System Software

as of October 16th, 1984 (replaces the list of August 28th, 1984)

Company	Phone	Product*	Ship Date**
Absoft	(313) 549-7111	MacFortran ^{tn}	November
Apple Computer, Inc.	(408) 996-1010	Assembler/Debugger	November
		Macintosh Pascal	Now
		Macintosh Basic	December
Borland International	(408) 438-8400	TurboPascal ^{tn}	Spring '85
Consulair Corporation	(415) 851-3849	C Compiler	November
Creative Solutions	(301) 984-0262	MacForth ^{tn}	Now
Expertelligence	(805) 969-7874	ExperLogo ^{tn}	November
		ExperLisp ^{tn}	January '85
Hippopotamus	(408) 730-2601	Hippo C ^{tn}	Now
IQ Software	(817) 589-2000	CP/M	Now
Kriya Systems	(312) 822-0624	Fifth ^{tn} (Forth/Smalltalk)	1st Q '85
Mainstay	(818) 991-6540	MacASM ^{tn} (Assembler)	Now
Manx Software Systems	(201) 780-4004	Aztec C 68K ^{tn}	Now
Mark Williams Company	(312) 472-6659	C Compiler	1st Q '85
Megamax, Inc.	(214) 987-4931	C Compiler	Now
Micro Focus, Inc.	(415) 856-4161	Cobol	1st Q '85
Microsoft	(206) 828-8080	Basic	Now
Modula Corporation	(800) 545-4842	Modula-2	Now
Pterodactyl	(415) 485-0714	Basic Compiler	Now
Scenic Computer Systems	(206) 885-5500	P-System	November
Softech Microsystems	(619) 451-1230	P-System	Now
		Pascal	Now
		Fortran	Now
		Assembler	Now
Softworks, Ltd.	(312) 327-7666	C Compiler	Now
True Basic, Inc	(603) 643-3882	True Basic ^{tn}	April '85
Volition, Inc.	(619) 270-6800	Modula-2	November

* Apple Computer, Inc. makes no warranties for the products listed above, other than its own.

** All months shown are in 1984 unless indicated otherwise.

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Inquiries on the products above should be made directly to the manufacturers listed.

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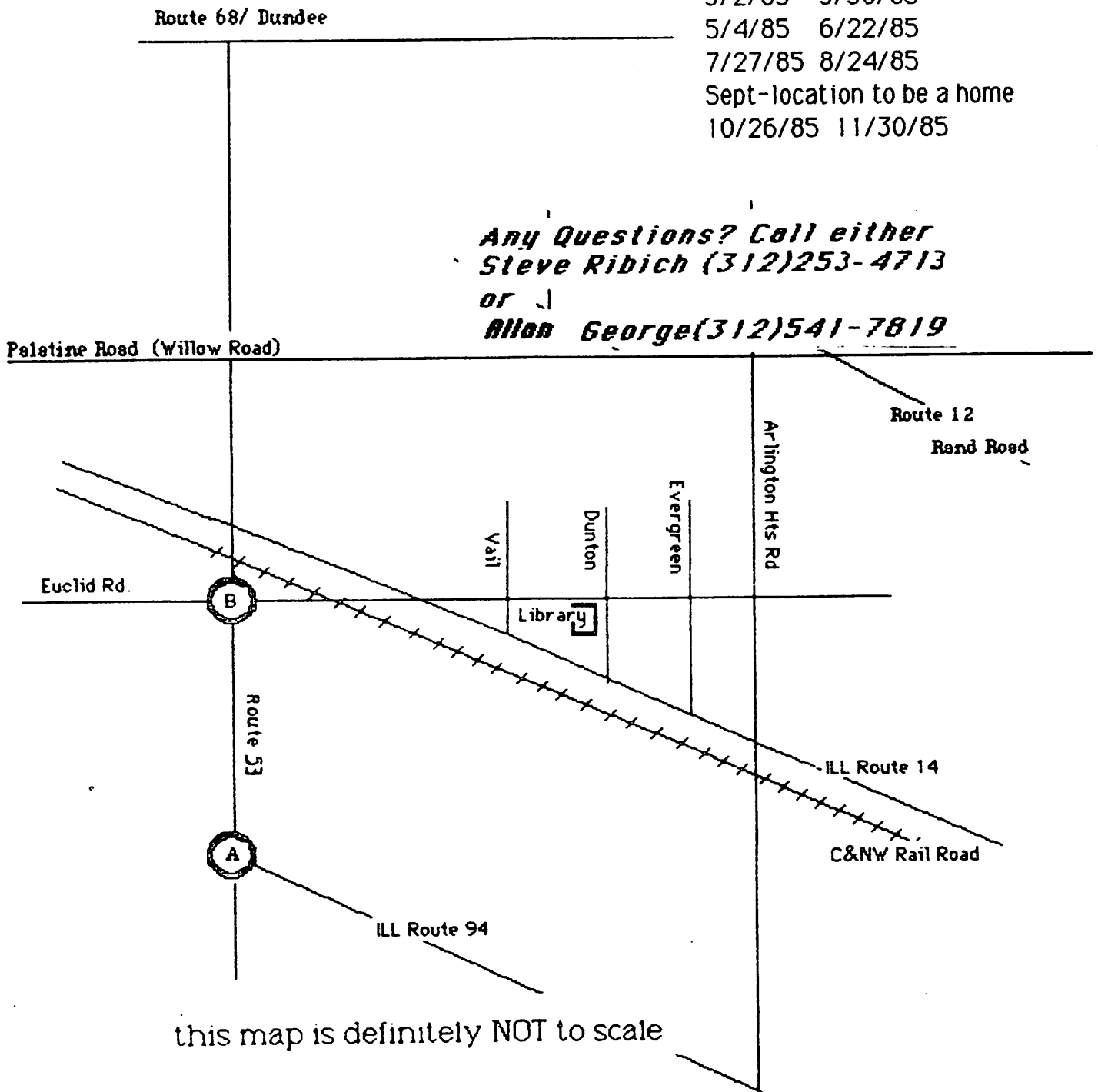
7/27/85 8/24/85

Sept-location to be a home

10/26/85 11/30/85

*Any Questions? Call either
 Steve Ribich (312)253-4713
 or*

Allen George (312)541-7819



SIG NEWS

MACINTOSH SIG

We now have a permanent meeting place for the Mac SIG. Future meetings will be held at the Arlington Heights Public Library, in the Dunton Room. See related information in this Harvest for a map and schedule.

The Mac SIG is setting up an Electronic Mail system for SIG members. Contact Alan George for details (541-7819).

BUSINESS SIG

Meets on the fourth Saturday of every month at 10:00 am at:

Mount Prospect Public Library

10 South Emerson Street

Mount Prospect, Illinois

(One block east of the intersection of Elmhurst Road (rte. 83) and Central Road).

The BUSINESS SIG next meeting is Jan 5, 1985. Jack Gratz will present Fontrix and Ron Curtis will present dBase II.

ASSEMBLY LANGUAGE SIG

There are two ASSEMBLY LANGUAGE SIGs which are:

BEGINNERS ASSEMBLY LANGUAGE SIG will meet the 2nd and 4th Thursday of the month. Call Helen Tufts 392-7735 for additional information.

ADVANCED ASSEMBLY LANGUAGE & HARDWARE SIG will meet 1st Sunday and 3rd Monday of each month. Call Chris Otis 885-7543 for additional information.

LIBRARY SIG

Meets on the first Thursday of the month at 7:30 p.m.

Call Joe Zeinz at 312/526-0575 for additional information.

GRAPHICS SIG?????

People wishing to form a Graphics SIG are asked to call Raymond Oviyach, 312-560-0715.

EDUCATION SIG

The Education SIG will not meet again until the new year. Any one wishing to join this group or help determine its direction is requested to call Ann Baldrige 893-5468.

BEGINNERS SIG

The SIG continues to have two beginners' groups meeting. It is oriented towards helping "new" or "rusty" Apple users deal with the many questions, frustrations, confusions and "mistakes" that we all have made "in the beginning".

Attendees provide the direction for the meetings by the questions they ask and the topics they bring up. Experienced NIAUG members are the answerers and explainers.

NIAUG members wishing to join the SIG should call Guy Lyle at 312/359-1458.

NOTE: NIAUG membership is required.

REPRINT AKNOWLEDGEMENTS

Anatomy of an Apple Pascal Code file, Washington Apple Pi, Bethesda, Md, September 1984

Super Music Synthesizer from Applied Engineering & Write Away. Apple-Dillo Austin, River City Apple Corps, Austin, Tx, May 1984.

Book Ends, Apple-Dillo Austin, River City Apple Corps, Austin, Tx, Oct 1984.

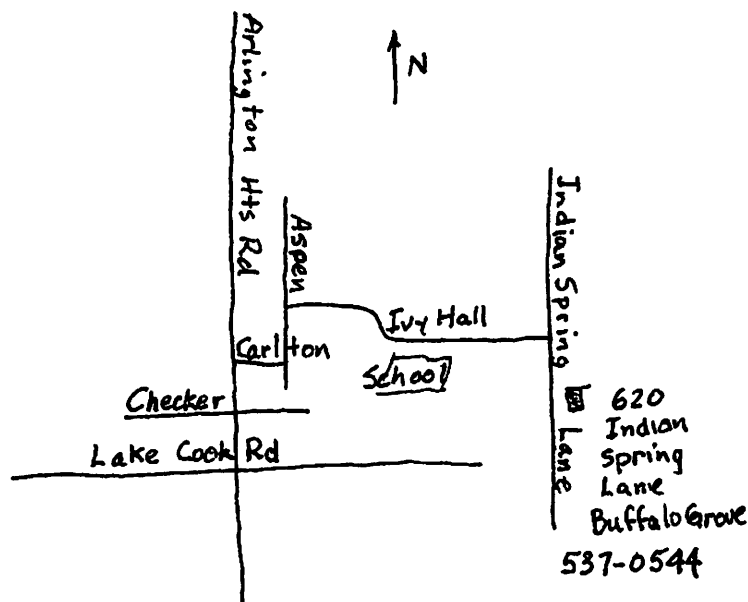
Word Juggler IIe, Apple Pickers, Inc, Indianapolis, Indiana, Vol 5, No. 5, May 1984

CRAE and APA CO-residency & Using Wordstar from a RAM disk, Maple Orchard, LOGIC, Willowdale, Ontario, Canada, Vol 3, No.2.

280 Cards & Applied Engineering, Denver's Apple Pi, Seed, Vol 6, No. 9, Sept 1984.

CLUB NEWS

NIAUG PLANNING MEETING



NORTHERN ILLINOIS APPLE USERS GROUP

JANUARY AGENDA

JAN 12, 1985.

JAN's Meeting will
be held in Bldg E RM 106
Harper College

10:00-10:30 am Opening Remarks/Club
Business
(Rob Stewart)

10:30-11:00 am Periodical Index
(Terry Tufts)

Mac Corner
(Mac SIG Group)

11:00-11:45 am Home Word
(Rich McNeil)

11:45-12:00 am Break
12:00-12:45 pm Mouseboard
(Paul Stadfeld)

12:45- 1:00 pm Mr. Apple/closing
remarks
(Rob Stewart)

Future meeting dates Feb 2, Mar 9
FOR ADDITIONAL INFORMATION CALL
312-537-3856

HAPPY NEW YEAR

ADVERTISING

All members of NIAUG may advertise free of charge, in the form of unclassified ads, as long as the ad is not part of a commercial endeavor.

NIAUG Members may also advertise commercial ventures using an unclassified ad 1/2 page wide format at \$3/issue/five line increment or use the regular box ads at the commercial rates.

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All ads must be prepaid and camera ready to the prescribed size as follows:

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Half page -7 1/2" wide X 4 3/4" high=\$30/issue
Quarter page-3 1/2" wide X 4 3/4" high=\$16/issue
Eighth page -3 1/2" wide X 2 1/4" high=\$9/issue

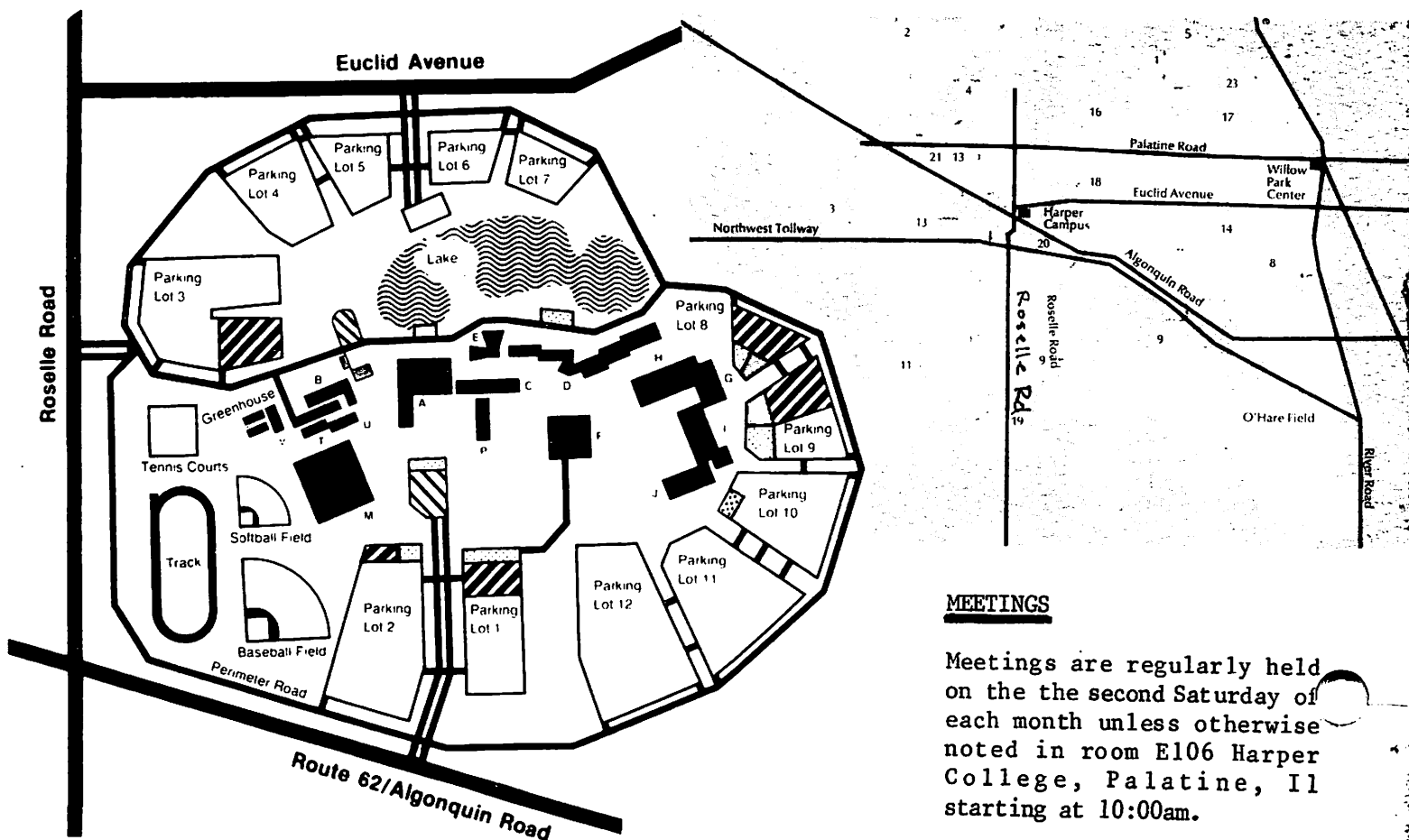
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MEETINGS

Meetings are regularly held on the the second Saturday of each month unless otherwise noted in room E106 Harper College, Palatine, IL starting at 10:00am.